JUN 14 1944

JUNE, 1944

fuel oil & oil heat

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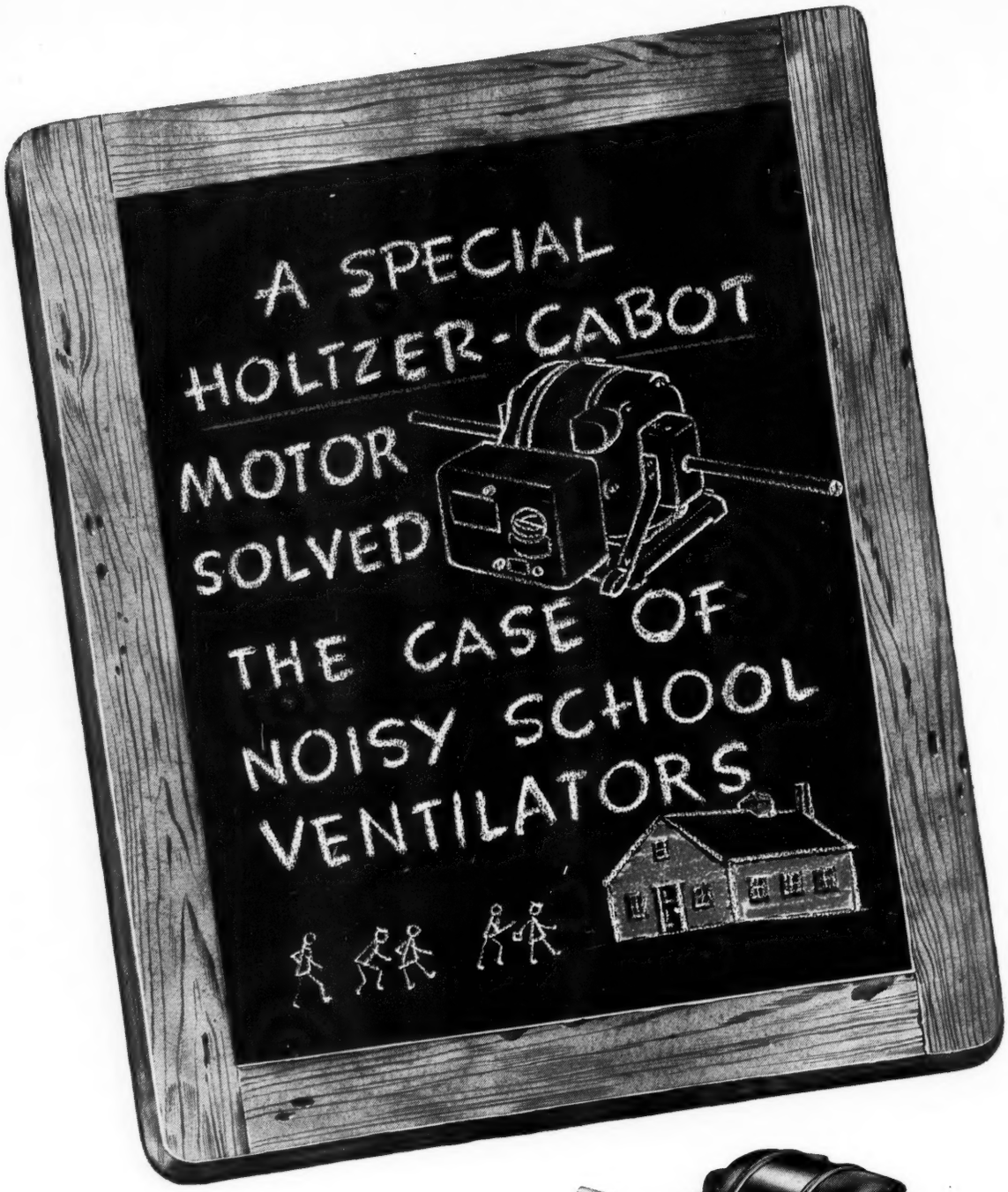
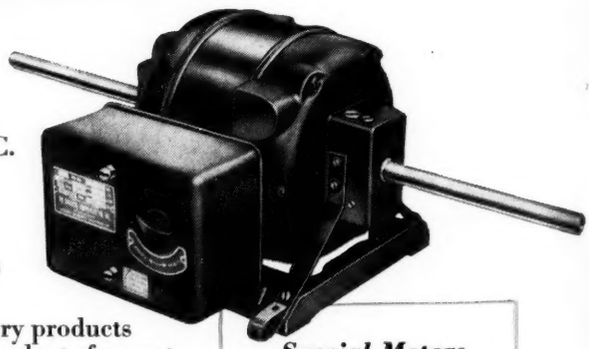


Not too long ago — school ventilators were powered with D. C. motors because everyone thought that an A. C. motor couldn't be built that would operate *quietly*.

Holtzer-Cabot motor development engineers dispelled this bug-a-boo by designing a special fractional H. P. motor that exactly met all the performance requirements including *extreme silent* operation.



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Today, Holtzer-Cabot is building special motors for military products exclusively. However, if you're planning or working on products for post-war, our engineers—backed by over 50 years of experience in designing and building motors to fit specific applications such as instrument, aircraft, machine tools, business machines, etc.—would like to talk with you on your motor problems.

The HOLTZER-CABOT ELECTRIC COMPANY

Designers and Builders of Special Fractional HP Motors and Electrical Apparatus

125 Amory Street, Boston 19, Mass.; Chicago, Illinois; New York, N. Y.; Philadelphia, Pa.

Names in the news

C. E. (Borie) Lewis, president of Oil Heat Institute of America, and salesmanager of Delco's Appliance Division, Rochester, N. Y., has resigned to become vice-president and manager of the Controls Division of Perfex Corp., Milwaukee, Wis. The change was effective June 1. In his announcement to the dealer organization, *E. A. Halbleib*, general manager of Delco, named *M. L. Judd*, former assistant salesmanager, to head sales of Delco-Heat, Delco-Light and Delco Water Systems.

George Guler has been appointed sales manager of the airconditioning controls division, Minneapolis-Honeywell Regulator Co., according to C. B. Sweatt, vice-president. Guler has been with the company 15 years. He will be succeeded in his present position as zone supervisor of airconditioning control sales in New York by *Lou Belford*, present field supervisor.

Ray C. Malvin has been appointed vice-president and general plant manager of Fitzgibbons Boiler Co., Oswego, N. Y. He will, in addition to running the plant, supervise the Company's postwar product studies.

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fueloil & oil heat

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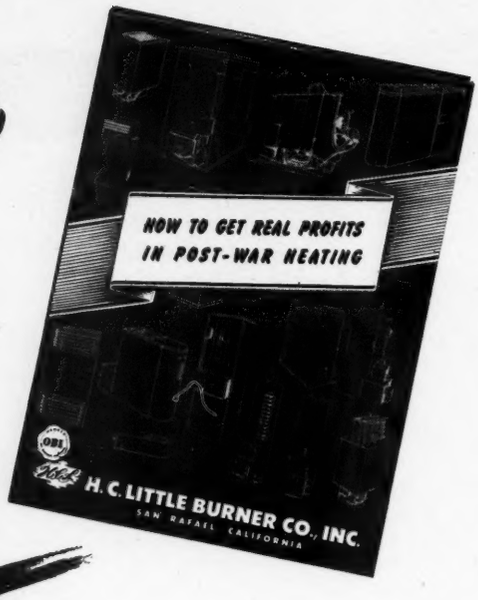
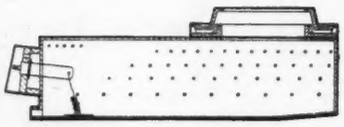
It will pay you to read this booklet right away



There is no doubt that the sale of oil heating equipment will be a lucrative business after the war. The only questions to decide are: what type and what make to handle. We know that the majority of homes, both new and old, will be heated with less than three quarts of oil per hour (figure 35,000 BTU input per quart)—and that home owners will demand automatic oil heat.

You know that this demand cannot be met by pressure type oil-burning equipment, which is not satisfactory in such small capacities. Therefore, the biggest volume of postwar sales will be in the vaporizing type oil burning units... AND in this type equipment...



H. C. Little *leads the field!*

With the Only Automatic Vaporizing Type Oil Burner Employing Electric Ignition

In fact, H. C. Little dealers will be the only heating equipment dealers in America who can meet the postwar demand with factory assembled units which combine fully automatic operation, electric ignition, thermostatic control and vaporizing burners. These units include oil-burning floor furnaces, wall furnaces, circulating heaters and hot water heaters—a complete range of sizes and types of automatic oil heat especially designed for small homes.

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SAN RAFAEL, CALIF.
Branches in Principal Cities

***So*—WRITE FOR THE FREE BOOKLET**—Get a copy of "How to Get Real Profits in Postwar Heating". Find out how we can go after that postwar market together.

F. G. Coggin has been appointed manager of the Oil Burner Controls Div. of Detroit Lubricator Co., according to an announcement by E. J. Doucet, general sales manager. P. S. *Russel*, who formerly held this position is devoting his efforts to research and development.

Harry R. Winkle, Owens-Corning Fiberglas Corp. comptroller and treasurer, has been elevated to the post of vice-president. He will also continue to serve in his present position. He has been associated with Owens-Corning since 1923.

John C. Barnes succeeds Paul B. Holmes as branch manager of the National Radiator Company's Washington office, after working as salesman in that territory for four years.

Donald R. Knowlton, Director of Production for P.A.W. resigned May 22, after serving in that capacity since Feb. 1942. He is joining Phillips Petroleum Co., Bartlesville, Okla., as Foreign Div. head.

P. T. Given, formerly manager of the General Electric Service Center, has been elected secretary and general manager of Delta Heating Corp., Jackson Heights, N. Y.

H. B. Clark, of White, Weld & Co., New York, has been elected a director of United States Radiator Corp., Detroit.

F. C. Arens is the new district manager, with Boston headquarters, for the Pittsburgh Equitable Meter Co., as announced by Col. Willard F. Rockwell, president.

D. W. Russell, president, Airtemp Div., Chrysler Corp., has been elected president of the Air Conditioning and Refrigeration Machinery Ass'n., and S. *E. Lauer* of the York Corp. first vice-president. J. *P. Rainbault* of G.E. is a director.

NOW IN PRODUCTION..

New Mack Trucks for Civilian Pool:

Because of urgent and mounting essential civilian needs, the War Production Board has authorized the manufacture of certain types of trucks for commercial use.

Assigned to Mack are models ranging from 9,000 pounds gross vehicle weight up to the largest off-highway vehicle. Production on some models has already started.

Military production continues, of course, in all Mack plants.

We will gladly give you detailed information. Just drop us a line, or phone.

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Mack Trucks, Inc., Empire State Building, New York, N. Y.
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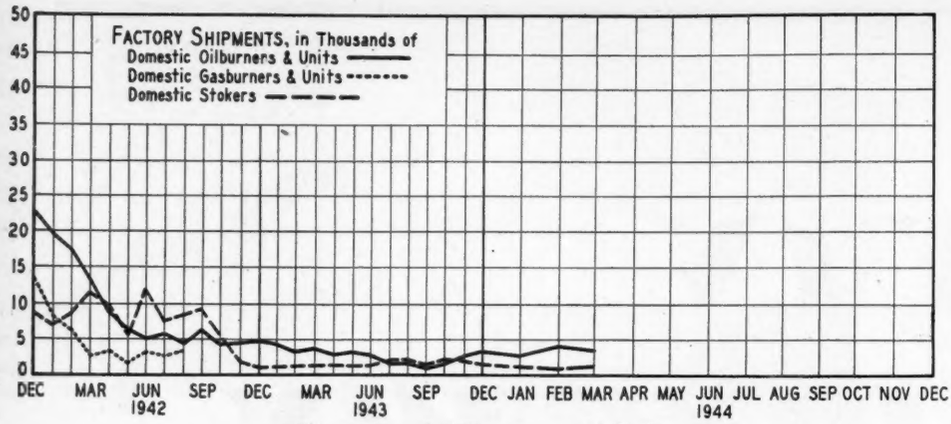
in all principal cities for service and parts.

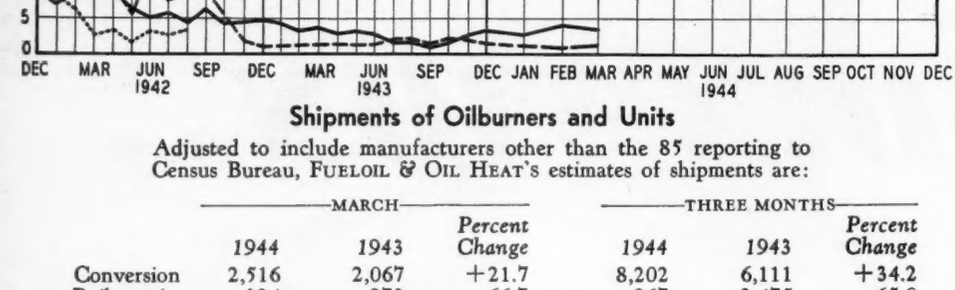
IF YOU'VE GOT A MACK, YOU'RE LUCKY...
IF YOU PLAN TO GET ONE, YOU'RE WISE!



Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 85 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	MARCH			THREE MONTHS		
	1944	1943	Percent Change	1944	1943	Percent Change
Conversion	2,516	2,067	+21.7	8,202	6,111	+34.2
Boiler units	324	973	—66.7	867	2,475	—65.0
Furnace units	677	666	+ 1.7	1,123	2,347	—52.2
All domestic	3,517	3,706	— 5.1	10,192	10,933	— 6.8
Commercial	3,268	4,473	—26.9	9,186	12,195	—24.8
Total	6,785	8,179	—17.1	19,378	23,128	—16.2



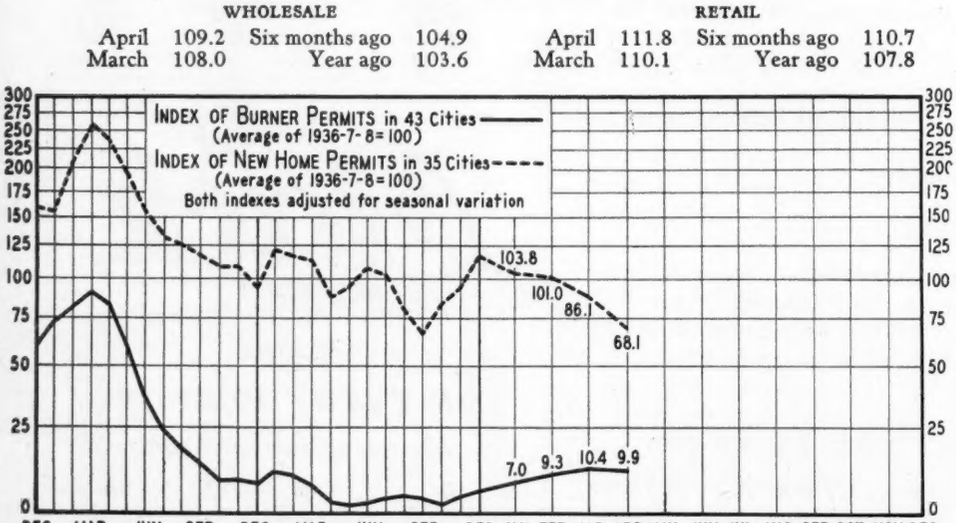
April Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	Top price*	Low price	Top price*	Low price	Top price*	Low price
Highest	$345	$195	$645	$395	$715	$395
Lowest	200	140	400	346	400	210
Apr. Aver.	265	178	494	363	496	348
Mar. Aver.	265	183	496	369	492	352

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more; for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: Jan. 1940 is 100%

WHOLESALE				RETAIL			
April	109.2	Six months ago	104.9	April	111.8	Six months ago	110.7
March	108.0	Year ago	103.6	March	110.1	Year ago	107.8



Oilheating Trends

Dealer sales of domestic oilburners and units in April are estimated at 1,112, compared with 268 in the same month a year ago. Of these, 86% were conversion burners, 3% boiler-burner units and 11% furnace-burner units. Total sales for the first four months of the year were 12,759, against 5,084 in 1943. It has been assumed that virtually all of this year's sales were replacements, but it now appears that a substantial number were not, as discussed in a later section.

BURNER PRICES: Both wholesale and retail prices moved up more than a point in April over March in the conversion burner price index. The tables do not reflect this, but the index is more accurate than the tables, being based upon an identical group of dealers each month.

SERVICE INCOME: Service department income of all reporting dealers in April averaged $1,650, virtually the same as April, 1943, when they had an average of $1,641.

BURNER STOCKS: Stocks of domestic burners and units in dealer hands at the close of April are estimated at 7,800. Factory stocks at the end of March, the latest available figures, were 16,787. Total factory and dealer stocks are something under 25,000. In looking at these as material adaptable to replacement installations, however, it is highly significant that not more than eight to nine thousand are conversion burners, the type for which there is a replacement demand. As shown in the first paragraph, less than one-seventh of the demand is for boiler or furnace units.

REPLACEMENT NEEDS: Dealers were asked this month the total number of replacement sales they had made since the start of the heating season. They were also asked how many burner service customers they have, so that a ratio of replacements to customers could be established. Using this ratio, the indicated total replacement sales for all dealers since September 1 have been 14,210. This is about one-fourth of a normal year's replacement sales. It is only six-tenths of one percent of burners in use. Obviously, such a low replacement rate cannot continue for long; too many old burners are now in the last-gasp stage. Asked to state the minimum number of replacements they know they must install next season,

counting only burners that they believe won't make out through another season, the estimated demand is 34,910 burners.

If 86% of those replacements are to be conversion burners, or 30,023, the manufacture of burners for this purpose is inescapable. Even though there are now about 9,000 conversion burners in stocks, they are mostly the dregs from normal large stocks, the "dogs and cats"—odd sizes, odd voltages, models that didn't sell for some reason, so for all practical considerations, all of next season's replacements must be manufactured.

It is interesting that only 14,200 replacements were made between September 1 and May 1, while in that same period a total of 20,040 domestic burners and units were sold by dealers. The other 5,840 were apparently new installations. While that is only two percent of a normal year's sales, it looks like a lot in these prohibition years. Obviously they were sold for priority uses, on hardship appeals, some for farm uses and some on delayed projects started in 1942. An example is a report this month from one dealer who sold 20 for corn dryers.

SMALL FUELOIL DROPS: At the end of the heating season fueloil distributors are freshly reminded of the headaches in a large accumulation of small "bobtail" deliveries, to customers who have a few coupons left but can't wait until they get the new season's ration. True, the same thing occurred last season, and worse, but there have been so many improvements in rationing since then that the headache this year is accentuated.

To measure the over-all impact of the small drop problem, distributors this month furnished data on their own operations. After carefully weighing all answers in relation to size of each distributor's business, it appears that during the full season 8.65% of all drops are under 100 gallons, or about one drop in twelve.

To illustrate, apply the overall averages to a distributor with 1,000 customers. Taking into account both the Midwest, with large tanks, and the East, with small tanks, the average customer got seven drops in the season, so our typical distributor makes 7,000 deliveries. Up to May 1, scattered through the season he made 462 drops of less than 100 gallons. As of May 1, he finds that 143 of the 1,000 customers have less than 100 gallons in coupons remaining and cannot wait until the new coupons are issued, to get a decent sized delivery, so he must make these 143 bobtails. Thus he makes a total of 605 less-than-100-gallon stops, or 8.65%.

Two changes in the new rationing program for next season will ease this strain —starting Periods 4 and 5 earlier; keeping all coupons valid to the end of the season. Distributors were asked if they believe these changes will substantially erase the small-drop headache. Voting "Yes" were 55%; "No" 45%.

ADVANCE TANK FILLING: Partially to make large drops out of the remaining bobtails, and partially to move accumulating stock out of storage, a number of industry men were pushing Washington to allow advance tank filling in May and June, with the distributor taking some form of I. O. U. against future coupons. Any coupon credit deal is a nightmare, as the oil men learned in the first months of rationing, but some felt that this disadvantage was outweighed by the advantages mentioned. Asked if they would like such an I. O. U. deal, 65% of reporting distributors said "No"; 35% voted "Yes."

Oilburner* and Building Permits

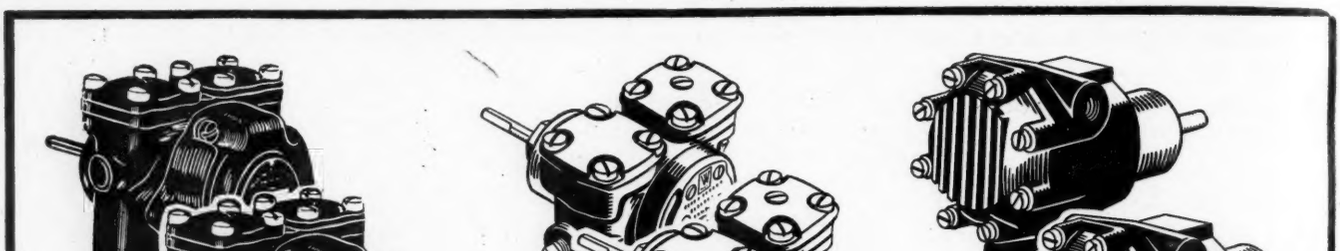
OILBURNERS					DWELLINGS			
April		4 MONTHS			April		4 MONTHS	
1944	1943	1944	1943		1944	1943	1944	1943
..	..	..	..	Baltimore, Maryland				
..	..	..	..	Binghamton, New York	1	0	1	0
..	..	..	..	Bloomfield, N. J.	0	0	0	0
22	5	93	42	Boston, Massachusetts	0	0	0	11
4	0	25	3	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	13	11	46	16
..	..	..	..	Des Moines, Iowa	1	1	1	1
4	0	42	0	Detroit, Michigan	282	705	1371	1436
3	0	3	0	Elizabeth, N. J.	0	24	0	40
5	0	23	1	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	0	0	0	0
..	..	..	..	Hackensack, N. J.	0	0	0	0
1	5	8	11	Hartford, Conn.	..	..	..	..
0	4	10	25	Hudson County, N. J.	..	..	..	..
0	0	1	1	Irvington, N. J.	0	0	0	0
..	..	..	..	Lynn, Massachusetts	0	0	0	0
5	0	5	4	Milwaukee, Wisc.	2	25	5	93
15	6	62	21	Minneapolis, Minn.	1	1	1	1
2	0	12	2	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	0	0	0
5	1	25	5	Mt. Vernon, New York	..	..	..	..
0	2	41	12	New Bedford, Mass.	..	..	..	..
0	0	0	0	New Haven, Conn.	..	..	..	..
0	2	0	6	New Orleans, La.	..	..	..	..
0	0	0	0	New Rochelle, N. Y.	0	0	0	0
16	..	37	..	Manhattan, Bronx, Rchd.	..	..	..	..
4	0	4	149	Norfolk, Virginia	2	1	3	157
0	0	1	2	Oakland, Calif.	..	..	..	..
3	1	45	13	Omaha, Nebraska	12	1	196	2
0	0	0	1	Orange, New Jersey	0	0	0	0
2	0	7	0	Paterson, N. J.	1	0	1	0
..	..	..	..	Plainfield, N. J.	0	6	7	6
1	0	11	0	Portland, Maine	0	3	0	11
24	0	42	6	Portland, Oregon	74	63	282	1093
3	0	6	0	Providence, R. I.	0	0	0	0
..	..	..	..	Reading, Penna.	0	0	0	0
0	0	0	1	Richmond, Virginia	0	0	0	33
0	0	0	0	Rochester, N. Y.	..	..	..	..
3	0	11	2	Rockville Center, N. Y.	0	0	0	0
0	0	0	0	Salem, Massachusetts	0	0	0	0
3	5	22	26	St. Louis, Missouri	0	0	0	0
1	0	16	5	St. Paul, Minnesota	0	0	0	0
4	5	9	7	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	152	129	482	360
..	..	..	..	Springfield, Mass.	5	41	6	53
5	0	9	0	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, New York	21	0	21	29
..	..	..	..	Trenton, New Jersey	0	0	0	0
..	..	..	..	Utica, New York	0	0	0	0
11	2	37	11	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	0	0	0	0
1	1	6	9	White Plains, N. Y.	0	0	0	0
0	0	3	3	Wilmington, Delaware	0	4	0	54
8	0	35	7	Worcester, Mass.	..	..	..	..
7	0	32	5	Yonkers, New York	..	..	..	..
162	39	683	380	*Totals*	567	1100	2423	3667
+315.3		+79.7		*Percent Change*	—48.4		—33.8	

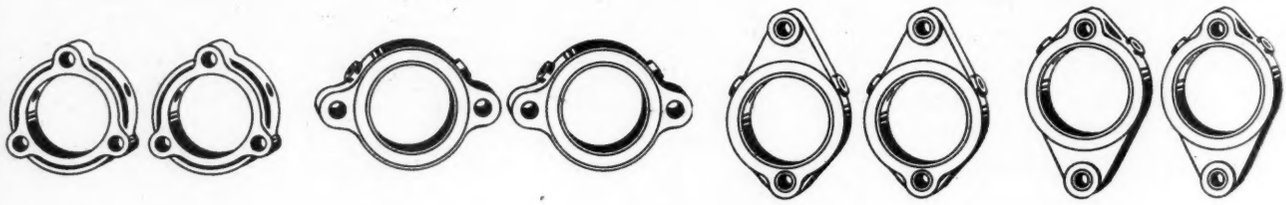
*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

We Present With Pride —

SID HARVEY'S PACKAGE No. 77

MAKES OVER 452 PUMP REPLACEMENTS





Here is just what you have been wishing for.

Yes sir! A pump package that you can use to replace the defective unit on practically every standard burner. Our list of all of the burners that this package can be used on is still increasing but we know it will fit at least 452 Burner models. There is no doubt that it will fit many more.

THINK WHAT A HELP IT WILL BE TO YOU to have one of these packages in every service car and be able to replace a defective fuel unit in a neat and workman-like manner ON THE FIRST CALL. You GIVE BETTER SERVICE to your customers and you GET MORE PROFITS FOR YOURSELF.

Package #77 has been designed with the minimum number of parts so that you can have the proper fuel unit, the correct mounting bracket, screws, shaft bushings, and even copper tubing with fittings so that you can replace a maximum number of pumps AT THE LOWEST COST, and FINISH THE JOB then and there.

GET ONE NOW—

HERE'S WHAT YOU GET IN PACKAGE #77

Your choice of Webster, or Sundstrand Fuel Units
One Fuel Unit with clockwise rotation (nozzle port on the left)
One Fuel Unit with counter clockwise rotation (nozzle port on right)
Eight different mounting brackets or flanges
Four shaft bushings
Eighteen assorted mounting flange screws
Four nozzle line adaptor fittings
Two lengths of 1/4" copper tubing, 18" long

DEALERS NET PRICES

Package #77 (WT) with Webster 1 T, 300 Series; Two stage Fuel Unit $37.50

Package #77 (WQ) with Webster 1 Q, 300 Series; Single stage Fuel Unit 34.10

Package #77 (S-1) with Sundstrand S-1 Fuel Unit 32.40

Write for a complete description of Package #77 and our new 1944 catalogue to be ready soon. New packages—Lower prices—Hundreds of illustrations—Thousands of hard to get service parts in stock for immediate shipment. Sales to the trade only.

SID HARVEY INC.
VALLEY STREAM, NEW YORK

Gas Competition

Use of Fueloil for Enrichment Only One of Several Problems

By
Robert Gray

Oilheating men in several cities, particularly St. Louis, Chicago, Minneapolis and Boston have become disturbed over the unfairness of giving manufactured gas companies all the fueloil they need for enrichment, while fueloil for home heating is curtailed. The gas users get all the heat they want, although more than half of the Btu content in the gas comes from the enriching oil. The author was asked to discuss this subject before a meeting of the Oil-Heat Institute of New England in Boston May 31. After considerable investigation in oil and gas industry circles and in Washington, he believed that nothing could be done about it, but pointed up some other angles on gas competition for study. Principal considerations in the Boston discussion follow:

THE GAS INDUSTRY is using about 18 million barrels of fueloil a year for gas enrichment. Eastern States (District I) account for 15 million barrels, or 81% of the country's total. It isn't all distillate oil by any means, a lot of it is residual, but when we stack that 15 million barrels up against the 70 million barrels of distillate and residual that our industry is now selling in that area for heating, we can see that it would make a whale of a difference in the comfort of our customers if we could have that 15 million. Not only would the distillate mean a lot to homes, but if we had the residual we wouldn't have had to convert so many of our large buildings to coal.

One New York utility was using a year ago 15,000 barrels of distillate a day, and distressed because it could only get a ten-day supply, at a time when our fueloil coupons had been cut to eight gallons.

But there is little point in getting worked up, or indulging in wishful thinking over a situation that apparently can't be changed at this late date. A good many people have dug into the problem, including four Government agencies, but they always run up against a stump somewhere, back away and worry about something else. If the problem had been tackled seriously enough, and early enough, there might have been a solution.

Obviously, there would have been only two ways to save that oil; either by rationing gas or by changing the manufacturing process to eliminate the oil from the gas.

The gas companies, in talking to Washington, have inferred that it is physically impossible to ration gas, and they convinced some people. But that is rather far fetched. As a physical job, rationing gas looks much easier than rationing oil. The meter reader would collect the coupons, and if there were not enough, would shut off the gas.

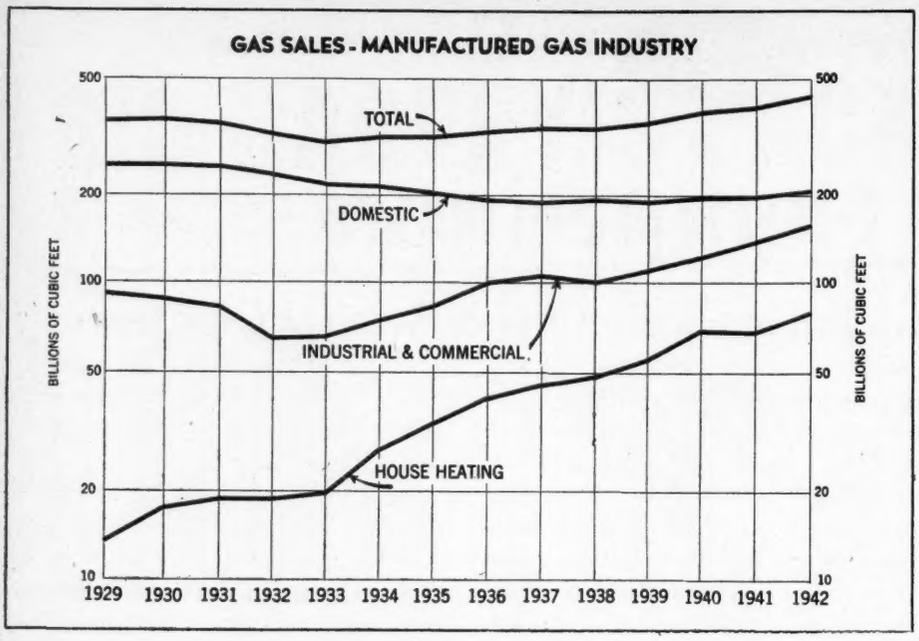
The gas men answer this by saying that someone would have to go back and turn it on, and also that today many gas companies read the meters only every three months, sending estimated bills for the intervening two months. Of course, that's all too bad, but we could as well say that you can't ration oil because our industry doesn't handle coupons, or because we just don't make deliveries under 200 gallons.

Aside from the handling of coupons, gas rationing would be much simpler at industry levels. There are only about 600 gas companies. There are 235,000 registered dealers in fueloil, including all of the grocery stores and filling stations that sell kerosene. Every one of those 600 gas companies would be a primary supplier —he makes the product, so there would be none of the complicated coupon flowback that we have in fueloil. Each company has a clear record of past consumption of every customer, so establishing the ration would be easy. To audit the program, a handful of men could spot check the 600 companies, and that would be the whole rationing job.

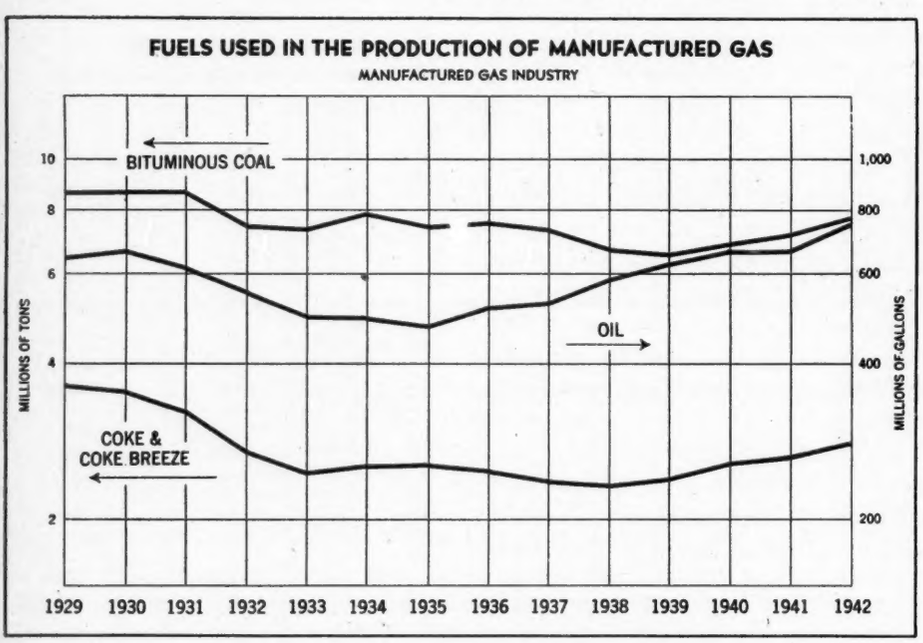
But if we set out to save the enrichment oil by simply rationing gas, we hardly save enough to justify the effort. In fueloil rationing, the only principal uses that are seriously cut are heating and hot water. All other users get tickets, but that is just to keep track of the oil, to prevent

Gas Enrichment Oil Consumption In Gallons, by States, 1942

EAST	
Maine	6,716,900
New Hampshire	2,716,800
Vermont	1,190,900
Massachusetts	52,520,400
Rhode Island	3,125,500
Connecticut	25,560,500
New York	239,712,100
New Jersey	116,939,600
Pennsylvania	79,097,800
Maryland	24,250,700
Delaware	168,100
District of Columbia	8,237,000
Virginia	14,191,600
West Virginia	114,100
North Carolina	3,526,800
South Carolina	3,501,700
Georgia	5,707,500
Florida	22,949,700
Total	610,227,700
MIDWEST	
Michigan	11,445,400
Ohio	181,500
Indiana	5,479,400
Illinois	10,866,500
Wisconsin	16,623,500
Minnesota	967,800
Iowa	5,175,500
Missouri	1,038,700
North Dakota	300,100
South Dakota	876,000
Nebraska	703,200
Total	53,657,600
WEST AND SOUTH	
Nevada	693,100
Colorado	133,100
Arizona	232,300
Washington	23,494,200
Oregon	60,589,000
Arkansas	61,200
Alabama	73,900
Kentucky	375,500
Tennessee	1,236,600
Total	86,888,900
U. S. Total	**750,774,200**



Charts by courtesy of American Gas Association



diversion, not to reduce its consumption.

In the East, where the 15 million barrels of gas enrichment oil is used, only 18% of all gas sold is used for heating. Suppose by rationing, heating users were cut a third; then we would save only a third of the enrichment oil used for heating, or a third of 18%, or 6%. That would be less than a million barrels a year. Fueloil rationing in the same area is saving about 30 million barrels a year.

Cooking consumes 46% of all Eastern gas. Fueloil for cooking is not cut. The customer is given what he needs, with a ceiling of 30 gallons a month, but to show how ample is that ceiling, the average cooking ration is 16 gallons a month.

The other possibility to save enrichment oil would have been to cut it entirely out of gas manufacture. There was one psychological moment when that might have been done, but it wasn't. It may be a surprise to learn that large elements in the gas industry today are particularly anxious to stop using enrichment oil, and plan to do it when the war is over.

One gas company in Rochester, N. Y., found that with its particular equipment it could produce a coal gas with plenty of Btu's to satisfy the Public Service Commission at lower cost than its enriched gas, and to its surprise, the customers liked it better. Over a period of several months, customer complaints fell off 22%. This was made by mixing straight coal gas with coke oven gas. The company did not have enough equipment to completely stop using oil, but it stopped it in all except the peak winter months, and it saved 330,000 gallons of oil in the first year, or two-thirds of what it had been using. But it used 7,300 tons more of coke. After the Rochester experience, which was widely publicized in the gas industry, all companies would like to do the same, but they don't have the equipment. Only 13 companies are so situated. Some of those have changed, and the others can't get the extra coal, or else they are producing toluene for the Army and cannot change.

New All-Coal Gas

Recently one of the country's largest chemical corporations has developed an all-coal gas that a number of the big companies are considering for postwar. It's a better gas than they now have and cheaper to make.

The psychological moment, mentioned in an earlier paragraph, when it might have been possible to push the oil out of gas, was a year ago this Spring. Earlier in the war, WPB wouldn't have allocated the critical materials for a change-over. Last Spring their attitude was easing a bit, and right at that time the oil shortage was at its worst. It would have been the time to try for some steel to save oil.

Then in May the coal strikes broke, and from then on everyone in Washington was worried about coal supply. Saving oil then would have meant using more coal, so the opportunity had been passed. Today Washington wouldn't listen to any such deal that required more coal.

Coal is not nearly as scarce as oil, but it isn't rationed, nor its distribution tightly controlled, so in some spots it will seem a lot scarcer. One man in Washington is both Petroleum Coordinator and Solid Fuels Coordinator, and he fought against coal rationing when the decision was to be made on March 21, so he can hardly be expected to do anything to jeopardize the coal situation in favor of oil, particularly when the oil problem is settled by rationing.

Why did no one try to take advantage of that psychological opportunity a year ago? Principally because there was no strong group sufficiently interested. The gas industry didn't know as much then

(*Continued on page 70*)

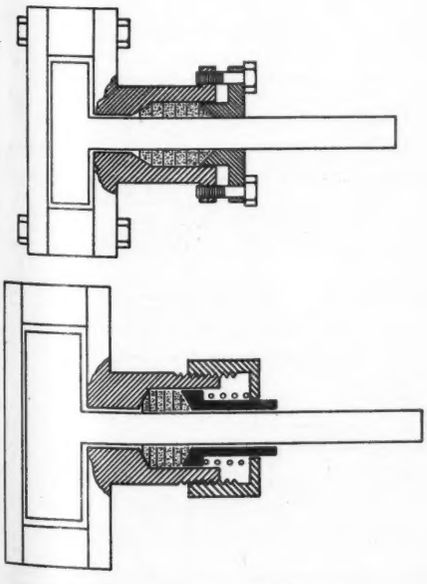
Service on Pump Glands

Stopping Oil Leaks Caused by Shaft Seal Trouble

By
J. W. Schulz

SOONER OR LATER, in servicing pressure burners, a man encounters an oil leak caused by a breakdown or flaw in the gland or seal of a pump. If the burner must be kept running and a spare pump is not available, the man who knows little about shaft glands finds himself in the same position as having to learn how to swim by being pushed off a pier. Really it's a bit worse than that, for the low-down on pump glands is that certain models, when leaking mildly, had better be left alone except when they can be tackled by a man experienced in working on them and who has at hand a set of the proper special tools and the replacement parts which alone can make a leaker healthy again.

To start at the beginning, Diags. 1 and 2 show oil pump stuffing boxes which can be repaired on the job and which are found today in a majority of commercial and industrial burners and a few domestic pressure burners. Selection of the proper material for packing these pump glands presents a problem which is not too serious, for even ordinary rag strips have been applied to light-oil and heavy-oil fuel oil pumps and have lasted for months. Make sure you do not take up too much on a gland of the type in Diag. 1, however. Turn the pump over by hand after packing it and before running it by the motor. Make sure it turns easily. This type of stuffing box gives you an invitation to tighten up too much and overload the motor. Diag. 2 shows a spring-loaded automatic take-up arrangement designed to lessen the risk of overloading the motor and to eliminate the need for readjustment each time the packing contracts a bit because of wear.



Diag. 1 *(top)* and Diag. 2

Metal-to-Metal Seals

Pressure burner designers have exhibited a determination to get away from the old-style, packed, adjustable stuffing boxes. Obligingly, the manufacturers of pumps and fuel units developed metal-to-metal shaft seals which are aimed to give these advantages:

1. Much lower load on the motor than comes of using an old style packed gland. Use of modern metal-to-metal glands imposes a negligible load on the burner motor.

2. Elimination of the need to adjust the pump gland periodically and to repack it when readjustment fails to make it tight.

3. Elimination of the risk of overloading the motor by tightening a packed gland too much or by permitting it to get in bad condition.

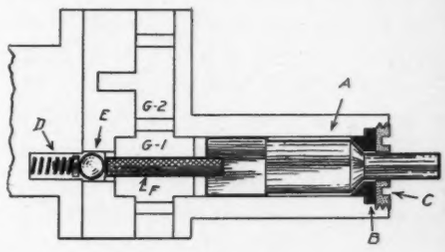
4. Elimination of the risk of the pump shaft's being ruined through improper servicing of a packed gland.

5. Freedom from the worry of oil leaks.

Thanks to modern metal-to-metal glands, motors as small as 1/20 horsepower are used today in some pressure burners. A big motor is not needed to work against a packed gland which at all times takes much more power than a metal-to-metal gland and which can be expected to give a real braking effect after a determined serviceman or home owner has gone after it to eliminate oil dripping.

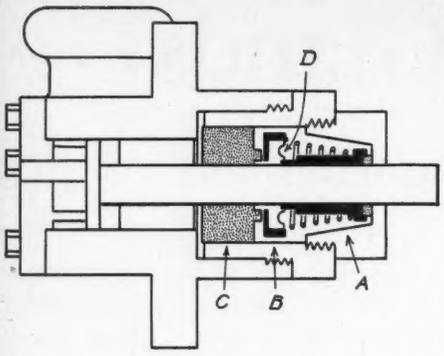
The modern gland has two finely-machined metal surfaces, pressed together by just the proper spring tension. One of these surfaces spins with the drive shaft of the pump, the other is stationary. The standard practice is to use a flexible element, either a bellows or a diaphragm, in the metal-to-metal gland, but in at least one model (Diag. 3) no such flexible element is used.

The gland shown in Diag. 3 was developed quite a few years ago by a leading oil burner manufacturer, and is used today in so many thousands of burners that almost any service man can expect to encounter it. Shaft A, by action of a spring, bears on the ring or "seat" B, which is held in place by locknut C. The drive coupling fastens to the righthand end of the shaft; the two pump gears are marked G-1 and G-2. Spring D provides the tension to hold together the two surfaces which form the shaft seal. It bears on ball bearing E, and on the pump-drive spline F, which is square and which slides freely through gear G-1 which it drives.



Diag. 3

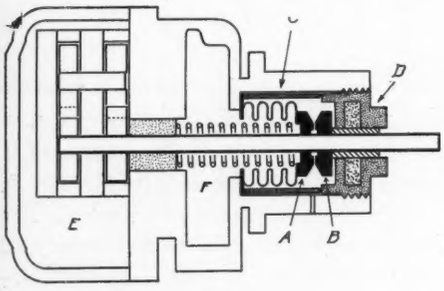
Men who service the particular burner models equipped with this shaft seal should carry the special tool needed to remove locknut C, and have available the parts labelled A and B, as the recommended service procedure is to replace these two parts when the gland leaks. To replace parts A and B on the job is a regular service procedure for men equipped to do the work; there is no need, therefore, to make a shop repair job out of tending to a leaky gland or to send the entire pump to the shop to be repaired. *Do not, however, attempt to work on this pump if you do not have the spe-*



Diag. 4

cial tools and replacement parts needed to cope with shaft gland leaks.

Diag. 4 is a simplified drawing of the gland used in a well-known line of pumps and fuel units. Part D is a flexible metal diaphragm which is secured to A, which in turn is secured to the pump shaft, and to B. A spring places tension on part D, pressing it into contact with part C. Part B, revolving with the motor shaft, and stationary part C have the two metal-to-metal surfaces that form the seal. The tension spring revolves with the shaft, of course, the righthand end of the spring anchors at the righthand end of revolving part A. Part A is fastened to the



Diag. 5

shaft and no oil can leak out between it and the shaft.

Pumps and fuel units fitted with this shaft seal can be serviced on the job by men who have the tools for this work and the special parts needed to end a leak. By following the manufacturer's instructions, the proper tension is placed on the parts which give the running metal-to-metal seal. As this make of equipment is very popular, it is advisable that servicemen become fully acquainted with it and be ready to cope with its service problems.

Diagram 5 shows a bellows arrangement for a shaft seal. A, fastened to one end of the bellows, is stationary along with the bellows, and presses on part B. Part B is fastened to the pump drive shaft; no oil can escape by flowing between B and the shaft. Removing D, using an open end wrench or monkey wrench, permits taking out C, which holds the lefthand end of the bellows in place against the body of the pump. Then the shaft and the bellows may be removed. The manufacturer of the equipment which is fitted with this gland has designed for extremely easy servicing in the field. Carrying a few relatively inexpensive parts permits the serviceman to cope with a leaky gland by replacing the defective parts. On some burners, the job can be done in less time than it takes to clean a strainer.

It pays a dealer or serviceman to have a definite and cleancut policy about handling troubles related to leaky glands. If you are likely to fall off a pier, it is good to learn how to swim beforehand. If you service pressure burners, it is good to make beforehand arrangements for coping with pump seals leaking. These procedures may be used:

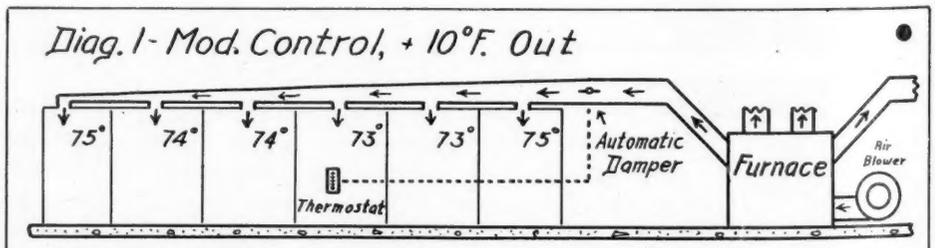
1. Keep on hand complete oil pumps or fuel units as spares for the makes and models of pressure burners you aim to be able to service. When a pump gland leaks, replace the entire pump or fuel unit. Send the defective equipment to be repaired by the manufacturer or by a specialist.

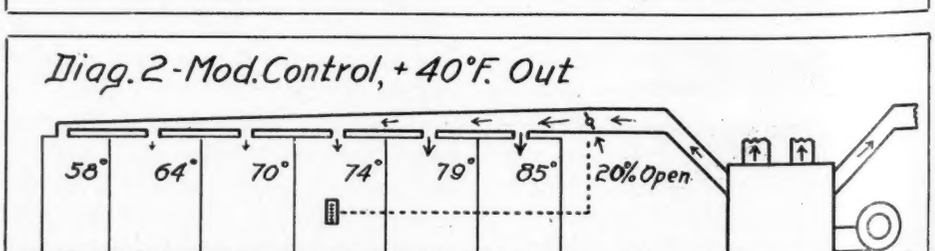
2. Obtain spare parts, instructions, and if necessary the special tools needed to replace on the job the parts of a leaky gland. This course is practicable for only those service organizations possessed of the exceptional in service skill; today it cannot be followed with good results by many organizations.

Relocating the Thermostat Does Not Lick All Trouble

EVERYONE concerned with the improper operation of a certain large forced-circulation warm air job blamed the trouble on improper location of the room thermostat. They reasoned that installing the thermostat in a colder room would end the trouble—that is, they figured that way until a heating engineer sized up the problem and diagnosed the trouble properly.

The automatically-fired warm air furnace, output 1,250,000 Btu per hour, is connected to four zones, each equipped with its own thermostat. Diag. 1 shows the zone that gave trouble. Every room in this zone (actually thirteen rooms instead of six) heated nicely when the outside temperature was as low as ten above zero. The furnace temperature ran high enough on such days, maximum about 210°F. at the bonnet; and the static head pressure provided at the bonnet was ample, better than one inch of water on an inclined tube draft gauge. Thus, there was plenty of air available for this trouble zone duct system, at a temperature more than high enough to heat the rooms. On a severely cold day the room thermostat, located about halfway down the 300-ft. zone, opened wide the automatic air damper controlling the flow of air to the





main duct, and the result was 73° to 75° for every room.

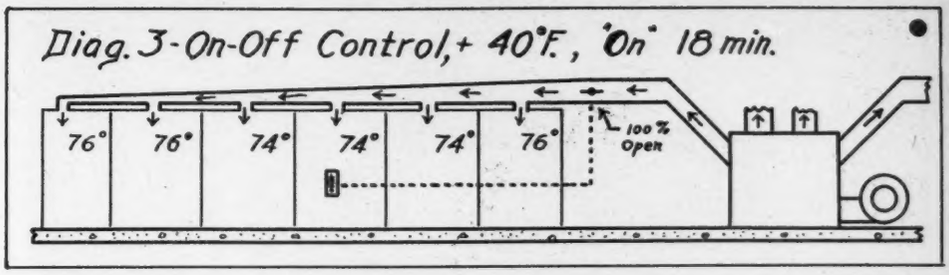
The big trouble, which made certain occupants of the building threaten to move out, came on mildly cold days. Diag. 2 gives the idea. With about 40° outdoors, the rooms at the end of the zone were badly underheated. The room in which the thermostat was located stayed at about 74°. These facts brought a big cry to move the room thermostat to the coldest room in the zone. This was the room at the end of the duct, indicated at 58° in Diag. 2.

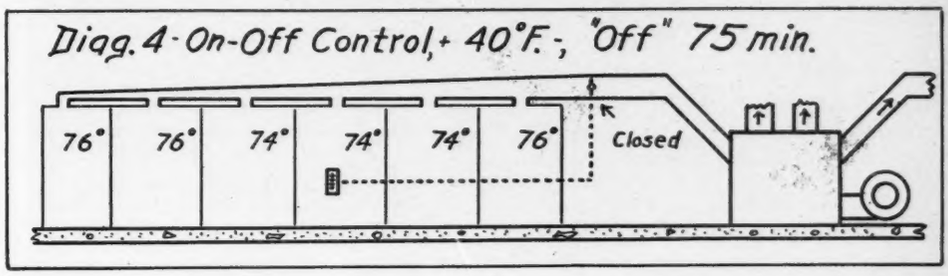
At this point a heating engineer picked up additional information. On warm days not only were rooms near the end of the 300-ft. duct underheated, but rooms close to the furnace were considerably overheated. The temperature in some was higher than 80° with windows open. Also, on a 40° day the modern type of gradual acting room thermostat opened the supply damper of the zone only about 20% (see Diag. 2). This resulted in a sufficient flow of warm air to the room in which the thermostat was located to heat this room to 74°. But with this automatic damper open only 20%, the static pressure at the output side of the damper was very low, less than .20" water, compared to the pressure available at the furnace bonnet, which was 1.10" water or higher, depending on the positions of the dampers serving the other zones. The small amount of warm air (found to be generally about 140° to 165° with the outside temperature 35°) coming through this 20%-open damper, wound up mostly in the rooms closest to the furnace. On top of this, close to the furnace the supply duct was quite warm with the damper 20% open, and the heat lost from the outside walls of the duct served to raise the temperature of the rooms near the furnace. That is why these rooms remained overheated even though persistent attempts had been made to balance the heat in mild weather by closing the air outlet dampers in the overheated rooms.

Full Load Test

The heating engineer made a series of early morning tests with the building unoccupied. First he blocked tight-closed the automatic damper supplying this zone, and opened the windows of every room, to bring the room temperatures to nearly the same for each room, and close to the outside temperature (about 35° when these tests were started). He then closed the windows. The furnace was heating the other zones in the meanwhile, and the bonnet temperature stayed between 150° and 170°. Then the engineer opened wide the damper that controlled the heat to this trouble zone. With full air pressure on the duct, warm air poured from every outlet register in it, and the duct became heated right to the end room, which it had never done before in moderately cold weather. The engineer had to leave the job for a few hours so he left his assistant with these simple instructions: (1) Observe closely the room temperature in the coldest room, the one farthest from the furnace, and close the supply damper for this zone tight when the temperature of this room rises to 75°. (2) Open the damper wide when the temperature of this coldest room drops to 72°. After three hours of following these instructions, the assistant read the temperature of every room in the zone. Not one was cooler than 72°, not one was hotter than 75°.

Next the remedy was announced. Install an on-off room thermostat, which either opens the damper fully or closes it tight, in place of the modulating type room thermostat which was installed originally. When one room chills and needs heat, give every room a full quota of heat from its supply registers by opening the supply damper wide and placing a real static pressure on the entire duct. When such an outflow of heat from the registers raises the temperature of the rooms to the desired level, close the supply damper tight, thus turning off heat to all rooms.





It took but 15 minutes to switch thermostats. Diags. 3 and 4 show the results. With the outside temperature about 40°, the supply damper opens wide for 18 minutes, then closes tight for 75 minutes. The temperature readings shown in these diagrams were taken halfway through the "on" period (Diag. 3) and halfway through the "off" period (Diag. 4).

The engineer is not opposed to the use of modulating type controls. He uses them often and declares that their proper application gives steady heating far superior to that obtainable from on-off type controls. But this particular long furnace-duct system, he points out, acts similar to a one-pipe steam heating job with respect to heat distribution when a small amount of heat is trickled into a zone. In a one-pipe steam job, only the radiators closest to the boiler tend to heat when you trickle into the steam main only enough heat for 20% of the radiation. In this furnace-duct system, only the warm air supply outlets near the control damper give warm air when you keep the control damper only 20% open. As it happens actually on this job, the use of modulating type controls gave trouble, but now with on-off type controls there is no trouble whatsoever.

◈

HAND PROTECTION for heating men is offered by the Cadet Creme Co., Worcester, Mass., as Skin-Kote, the "Invisible Work Gloves for Industry." It is claimed to be non-irritating, but fills the skin pores against the griming effect of grease and dirt. The protector with the dirt can be removed by soap and water.

Service in the Black

War Conditions Show the Way to Profit

By
A. E. Coburn

OILBURNER SERVICE, too long given away in some of the country's better markets, can be an important source of income, and it is the opinion of many of the best oil and burner retailers that any company that gives away service is doing itself and the industry a great disservice. Few companies are in such a profit position that they can afford to throw away a source of revenue, and few of their friends and business neighbors can afford the luxury of their folly. An examination of most retailers' books will show that oil and equipment sales departments cannot afford such a burden as free service imposes.

War, which stopped new equipment sales, and prevented the expansion of the fueloil market, has all but eliminated free service. This change has been good for the companies that formerly had been giving away their oilburner service, and it has benefited the industry as a whole. Service and oil has been the chief means of support for nearly all dealers during the last two years, and free service during wartime simply would have abolished the industry a little faster than it might in normal times; fundamental economics are not much changed by war but they are speeded.

The basic problem of how to survive the war period was uppermost in all dealers' minds two years ago. This is essentially a case history of how one such dealer did survive by good management, aided by the general decision to abandon free service on the part of the local oilburner industry.

Skaggs & Walsh, Inc., of Long Island City, N. Y., never had offered free oilburner service to build their constantly growing fueloil business. Norris Skaggs and Stanley Walsh had come up through the industry the hard way. Both had been manufacturers' field men, had managed departments for dealers, had worked in factory branches, and knew the business from long association with it. When they set up the Skaggs and Walsh Oil Company in August of 1933, Mr. Skaggs had been in the business eleven years, and Mr. Walsh had eight years' experience. They had engaged in, and taught, the selling, installation and service of oilheating equipment, and they knew the value of the service they were selling. The addition of fueloil to the oilheating business represented a bit of integration that was then not so widely recognized.

S & W was beginning to prosper in 1936 when free oilburner service became a problem in the territory. Not only were oil customers beginning to expect a dealer to guarantee the operation of their oilburners for a fueloil contract, but the volume of service contracts was seriously affected. Service contracts had been a dependable source of revenue and a cut in this volume, coupled with the constant struggle to maintain fueloil volume, demanded action. The partners went into a huddle.

It was decided that the company would not adopt a free service policy to conform with the trend, but would make concessions to their service customers by allowing rebates for unused service calls to which the contract entitled them. Depending upon the type of contract sold, prices ranged from $15 to $17.50 per year. Each contract carried five coupons each good for one $2 emergency service call. The remaining $5 or $7.50 was set up as a reserve to cover parts replacement. If the customer had unused coupons at the end of his contract year, a credit of $2 each was allowed on a new contract, or refunded, as the customer desired. This had the effect of holding the volume of service customers, but the rebates still cut into the revenue of the service department.

Customers will help

"It is surprising," Mr. Skaggs will tell you, "how quickly people learn to change a blown fuse, or adjust their thermostats, or watch their tank gauges when a service call is going to cost them a redeemable $2 coupon. Then there were other objections to the plan from our point of view. If Momma had been losing at bridge, or otherwise running behind the family budget, she would offer service coupons for oil delivered, and attempt to get free service from others when needed. The net result was not entirely satisfactory."

The coupon service contract was abandoned at the end of 1941, though there were some unexpired contracts that ran over into 1942, which were terminated at expiration.

For the purpose of comparing wartime operation with pre-war, 1940 and 1943 are taken as typical years, and the accompanying table shows a comparison of the company's operations. These figures in both years include both service and installation billing and expense. The generally larger items of income and expense in 1940 can be said in general to represent the activity of the installation department in a normal year. Figures on the installation department were kept separately in 1941 and 1942.

The true effect of present management activities on service is shown in the 65.5% increase in service contract revenue. The

44.6% increase in contract parts income in 1943 represents the increase in the number of contract customers, plus some increase in service due to older equipment. Service calls have increased ¼ call per burner per year, due to older burners now remaining in service, most of which would have been replaced in normal times. This increase in parts revenue contrasts with the 81.9% rise in contract labor revenue, representing the increase in straight contract sales without coupon rebates, as well as an increase in contract sales.

The 52% decrease in C.O.D. service and installation largely reflects the slump in installation work compared with 1940.

With installation of new equipment practically stopped during the last two years, it is to be expected that there would be a sharp decrease in service rendered under the guarantee. This source of revenue for the department dropped nearly 93%.

Though total service department revenue decreased more than 41% by 1943, direct service costs had decreased nearly 51%. Service and installation materials were off almost 70% compared with 1940, due to the lack of new installations, though total labor costs were down less than 11%. The greater volume of service business was handled last year by five full-time service men and one who worked five months of the year, contrasted with eight fulltime men in 1940. Pay at present is on a 48-hour weekly basis, with overtime for all over eight hours in any one day. In 1940 the wage rates were about $10 per week less than in 1943. Company officials admit their good fortune in holding five competent full time men from their former service and installation crews.

Norris Skaggs *(right) and* **Stanley Walsh** *started their oilheating business in 1933, following a thorough apprenticeship with manufacturers' and dealers' organizations.*

COMPARISON OF OPERATIONS
S & W Service Department

	1940	1943	% Change
SALES			
Contracts and Coupons Earned—Parts	$ 4,029.03	$ 5,827.36	+ 44.6
Contracts and Coupons Earned—Labor	4,520.40	8,222.60	+ 81.9
C.O.D. Service and Installation	77,294.77	37,005.22	— 52.1
Guarantee Service	919.38	65.18	— 92.9
TOTAL INCOME	86,763.58	51,120.36	— 41.1
DIRECT COST			
Materials	45,410.12	13,669.26	— 69.9
Labor	18,811.32	16,797.40	— 10.7
Taxes and Insurance	1,455.37	1,540.60	+ 5.9
Outside Contractors	672.12	667.14	— .7
Total Direct Cost	66,348.93	32,674.40	— 50.7
OVERHEAD			
Automobile Expense			
Garage	550.00	404.25	— 26.5
Gas and Oil	1,136.82	893.37	— 21.4
Repairs	415.18	652.93	+ 57.2
Sundries	353.60	357.61	+ 1.1
Licenses	186.01	164.10	— 11.7
Insurance	695.75	591.80	— 14.9
Depreciation	1,118.48	622.91	— 44.3
Total Automobile Expense	4,455.84	3,686.97	— 17.2
Car Allowances	906.40	330.00	— 30.6
Sales Commissions	4,948.88	1,454.07	— 70.6
Dispatchers' Salaries	2,013.46	1,614.07	— 19.8
Stockroom Salaries	1,162.79	324.98	— 72.0
Telephone	732.00	381.59	— 47.9
Tolls and Ferriages	95.32	63.97	— 32.9
Sundries	56.87	638.87	+102.3
Advertising	227.37	....	...
Permits and Inspections	1,136.30	41.80	— 96.3
Payroll Taxes, Insurance, etc.	220.25	79.88	— 63.7
Total Overhead	15,955.48	8,616.20	— 46.0
TOTAL COST OF SERVICE	82,304.41	41,290.60	— 49.8
SERVICE DEPARTMENT PROFIT	4,459.17	9,829.76	+120.4

Service department charges for "Outside Contractors" changed little. This item represents pay to other dealers who are called upon when needed to handle calls too remote from the plant to be economical. Emergencies when none of the S & W men is in the neighborhood sometimes require handling by other competent dealers who are called. This practice conserves not only time, but gasoline and tires as well.

Though service department income was off more than 41% last year compared with 1940, the direct service costs took only 63.9% of 1943 income, against 76.5% of the department's 1940 income.

Items of overhead also have been pared considerably. Though total automobile cost has decreased but little more than 17%, the company has doubled the number of its own cars in use, and has cut the number of cars owned by servicemen, on which a daily allowance was paid. This has cut the combined automobile expense and car allowance by 25%, in spite of

(Continued on page 54)

Additional Fueloil Ceilings

STATE OF DELAWARE. Maximum tank wagon prices for Nos. 2, 3 and 4 distillate fuel oils to consumers in the State of Delaware shall be as designated below:

For single lot deliveries of 100 gallons or more:

Within the area:	*Cents per gallon*
North of the Chesapeake & Delaware Canal	9.0
South of the Chesapeake & Delaware Canal	9.3

For single lot deliveries of less than 100 gallons the maximum price within each area listed in paragraph above shall be increased by .5¢ per gallon.

STATE OF MARYLAND. Maximum tank wagon prices for Nos. 2, 3 and 4 distillate fuel oils to consumers in the State of Maryland shall be as designated below:

For single lot deliveries of 100 gallons or more:

Within the county of:	*Cents per gallon*
Allegany	10.3
Anne Arundel	9.3
Baltimore and City of Baltimore	9.0
Calvert	9.5
Caroline	9.3
Carroll	9.3
Cecil	9.5
Charles	9.5
Dorchester	9.3
Frederick	9.3
Garrett	10.3
Harford	9.3
Howard	9.3
Kent	9.3
Montgomery	9.4
Prince Georges	9.4
Queen Annes	9.3
St. Marys	9.5
Somerset	9.3
Talbot	9.3
Washington	9.3
Wicomico	9.3
Worcester	9.3

For single lot deliveries of less than 100 gallons the maximum price within each county listed in paragraph above shall be increased by .5¢ per gallon.

STATE OF NEW YORK. Maximum tank wagon prices for Nos. 2, 3 and 4 distillate fuel oils to consumers in the State of New York shall be as designated below:

For single lot deliveries of 100 gallons or more:

Within the county of:	*Cents per gallon*
Albany	9.0
Excepting: Township of Rensselaerville	9.3
Alleghany	10.2
Excepting: Townships of New Hudson, Belfast, Angelica, West Almond, Almond and all townships north thereof	10.5
Bronx	9.0
Broome	10.2
Cattaraugus	10.2
Excepting: Townships of Conewango, Napoli, Little Valley, Great Valley, Humphrey, Ischua, and all townships north thereof	10.4
Cayuga	9.6
Excepting: Townships of Sterling, Moravia, Locke, Summer Hill and Sempronius	9.9
Chautauqua	10.0
Excepting: Townships of Sheridan, Dunkirk, Hanover, Pomfret, Arkwright, Villenova, Cherry Creek, Ellington, Charlotte, Stockton, Portland, Chautauqua, Westfield, Ripley, Mina, Sherman and North Harmony	10.1
Chemung	10.1
Chenango	9.7
Excepting: Townships of Coventry, Greene, Smithville, German, Pitcher, and Lincklaen	10.2
Clinton	9.4
Excepting: Townships of Ausable, Black Brook, Champlain, Clinton, Mooers, Ellenburg, Altona, and Chazy	9.8
Columbia	9.0
Cortland	10.1
Delaware	9.7
Dutchess	9.0
Excepting: Townships of Pawling, Dover, Amenia, and Northeast	9.3
Erie	10.0
Excepting: Townships of Collins, Concord, Sardinia	10.4
Essex	9.4
Excepting: Townships of Wilmington, Jay, and Chesterfield	9.8
Townships of St. Armand, North Elba, North Hudson, Keene, Newcomb, Minerva and Schroon	10.2
Franklin	10.2
Fulton	9.3
Excepting: Townships of Stratford, Caroga, Bleeker, Mayfield, Northampton, Broadalbin and Oppenheim	9.8
Genesee	10.0
Greene	9.1
Excepting: Townships of Ashland, Durham, Halcott, Hunter, Jewett, Lexington, Prattsville, and Windham	9.4
Hamilton	10.2
Excepting: Townships of Long Lake and Inlet	10.6
Herkimer	9.4
Excepting: Townships of Ohio and Webb	10.1
Jefferson	10.0
Kings	9.0
Lewis	10.2
Livingston	10.0
Excepting: Townships of Portage, Nunda, Ossian, West Sparta, and Mount Morris	10.5
Madison	9.4
Excepting: Township of Sullivan	9.6
Townships of Cazenovia, Fenner, Nelson, De Ruyter, Georgetown, Lebanon, Hamilton, Brookfield, Madison, and Eton	10.0
Monroe	9.7
Excepting: Townships of Hamlin, Clarkson, and Sweden	10.0
Montgomery	9.3
Nassau	9.1
New York	9.0
Niagara	10.1
Oneida	9.4
Excepting: Townships of Boonville, Remsen, Steuben, Western, Ava, Lee Annsville, Florence, Camden, and Vienna	9.7
Township of Forestport	10.1
Onondaga	9.6
Excepting: Townships of Lysander and Spafford	9.8
Ontario	9.6
Excepting: Townships of Farmington, Victor, W. Bloomfield, E. Bloomfield, Richmond, Bristol, Canadice, South Bristol, and Naples	9.7
Orange	9.1
Excepting: Townships of Deer Park, Greenville, Mt. Hope, Wallkill, Crawford, Wawayanda, and Minisink	9.4
Orleans	10.0
Oswego	10.0
Otsego	9.6
Excepting: Townships of Unadilla, Butternuts, Morris, Pittsfield, and Edmeston	9.7
Putnam	9.0
Queens	9.0
Rensselaer	9.0
Excepting: Township of Hoosick	9.3
Richmond	9.0
Rockland	9.0
St. Lawrence	10.1
Saratoga	9.3
Schenectady	9.1
Schoharie	9.3
Excepting: Townships of Jefferson, Gilboa and Conneville	9.6
Schuyler	10.1
Seneca	9.6
Excepting: Townships of Lodi and Covert	9.9
Steuben	10.1
Excepting: Townships of Hornellville, Hartsville, Greenwood, West Union, Troupsburg, Jasper, Canisteo, Howard and Freemont	10.4
Suffolk	9.2
Excepting: Township of Brookhaven	9.3
Townships of Riverhead, Southhampton, Southold, and East Hampton	9.4
Township of Shelter Island	9.9
Sullivan	9.4
Tioga	10.2
Tompkins	9.9
Ulster	9.1
Excepting: Townships of Hardenbergh and Shandaken	9.5
Warren	9.8
Excepting: Townships of Queensbury, Bolton, Luzerne, and Warrensburg	9.3
Washington	9.3
Excepting: Townships of Granville, Hebron, Hartford, and Putnam	9.5
Wayne	9.6
Excepting: Townships of Ontario, Wallworth, Macedon, Palmyra, Marion and Williamson	9.7
Westchester	9.0
Wyoming	10.0
Excepting: Townships of Arcade, Eagle, Pike and Genesee Falls	10.5
Yates	9.6
Excepting: Township of Starkey	10.1

For single lot deliveries of less than 100 gallons the maximum price within any county or township listed in paragraph above shall be increased by .5¢ per gallon.

STATE OF PENNSYLVANIA. Maximum tank wagon prices for Nos. 2, 3 and 4 distillate fuel oils to consumers in the State of Pennsylvania shall be as designated below:

For single lot deliveries of 100 gallons or more:

Within the county of:	Cents per gallon
Adams	9.3
Alleghany	9.3
Armstrong	9.3
Beaver	9.3
Bedford	9.8
Berks	9.3
Blair	9.8
Bradford	9.8
Bucks	9.0
Butler	9.3
Cambria	9.8
Cameron	9.8
Carbon	9.8
Centre	9.8
Chester	9.0
Clarion	9.3
Clearfield	9.8
Clinton	9.8
Columbia	9.8
Crawford	9.3
Cumberland	9.3
Dauphin	9.3
Delaware	9.0
Elk	9.8
Erie	9.3
Fayette	9.8
Forest	9.3
Franklin	9.3
Fulton	9.8
Greene	9.8
Huntingdon	9.8
Indiana	9.8
Jefferson	9.8
Juniata	9.8
Lackawanna	9.8
Lancaster	9.3
Lawrence	9.3
Lebanon	9.3
Lehigh	9.3
Luzerne	9.8
Lycoming	9.8
McKean	9.8
Mercer	9.3
Mifflin	9.8
Monroe	9.8
Montgomery	9.0
Montour	9.8
Northampton	9.3
Northumberland	9.8
Perry	9.3
Philadelphia	9.6
Pike	9.8
Potter	9.8
Schuylkill	9.8
Snyder	9.8
Somerset	9.8
Sullivan	9.8
Susquehanna	9.8
Tioga	9.8
Union	9.8
Venango	9.3
Warren	9.3
Washington	9.8
Wayne	9.8
Westmoreland	9.8
Wyoming	9.8
York	9.3

For single lot deliveries of less than 100 gallons the maximum price within each county listed above shall be increased by .5¢ per gallon.

COUNTIES OF ARLINGTON AND FAIRFAX. Maximum tank wagon prices for Nos. 2, 3 and 4 distillate fuel oils to consumers in the above counties of the State of Virginia shall be as follows:

	Cents per gallon
Tank wagon deliveries in quantities of 100 gallons or over	9.4*
Tank wagon deliveries in quantities of less than 100 gallons	9.9*

*These prices are the same as established for the District of Columbia.

STATE OF NEW JERSEY. In the State of New Jersey, at points designated below, maximum prices shall be as follows:

For kerosene, No. 1 fuel oil, range or stove oil:

(All prices in cents per gallon)

	Wholesale f.o.b. prices				Delivered prices		
	F. o. b. terminals in bulk lots loaded into barges	F. o. b. refineries, seaboard tanker terminals and pipeline terminals in bulk lots loaded into tank cars and motor transports in single lots of 3,000 gallons or over	Loaded into buyer's tank wagon in single lots of less than 3,000 gallons		For tank wagon delivery to resellers in any quantity	For tank wagon delivery to consumers in quantities of 25 gallons or over	For tank wagon delivery to consumers in quantities of less than 25 gallons and truck deliveries in containers in quantities of less than 25 gallons
For delivery within:				For delivery within:			
Union County	7.0	7.1	7.6	Union County	10.0	10.5	12.0
Middlesex County	7.0	7.1	7.6	Middlesex County	10.0	10.5	12.0
Excepting town of Dunellen	..	..	7.7	Essex County	10.0	10.5	12.0
Essex County	7.0	7.1	7.8	Excepting:			
Excepting storage facilities situated on Doremus Avenue, city of Newark.	7.0	7.1	7.6	Towns of Caldwell, Essex Fells, West Caldwell, North Caldwell, Roseland and Caldwell Township.	10.5	11.0	12.5
Hudson County	7.0	7.1	7.8	Hudson County	10.0	10.5	12.0
Bergen County	7.0	7.1	7.9	Bergen County	10.0	10.5	12.0
Excepting:				Passaic County	10.0	10.5	12.0
Borough of Edgewater	7.0	7.1	7.6				
Borough of North Arlington and township of Lyndhurst.	..	..	7.8				
Passaic County	..	..	7.9				

For Nos. 2, 3 and 4 distillate fuel oil:

(All prices in cents per gallon)

	Wholesale f. o. b. prices				Delivered prices	
	F. o. b. terminals in bulk lots loaded into barges	F. o. b. refineries, seaboard tanker terminals, and pipe-line terminals, in bulk lots loaded into tank cars and motor transports, in single lots of 3,000 gallons or over	Loaded into buyers' tank wagon in single lots of less than 3,000 gallons		For tank wagon deliveries in quantities of 100 gallons or over	For tank wagon deliveries in quantities of less than 100 gallons
For delivery within:				For delivery within:		
Union County	6.6	6.7	7.0	Entire State of New Jersey	9.0	9.5
Middlesex County	6.6	6.7	7.0			
Excepting town of Dunellen	..	..	7.4			
Essex County	6.6	6.7	7.1			
Excepting storage facilities situated on Doremus Avenue, city of Newark	6.6	6.7	7.0			
Excepting storage facilities situated on Frelinghuysen Avenue or Wheeler Point Road, city of Newark	..	..	7.2			
Hudson County	6.6	6.7	7.2			
Excepting city of Bayonne	6.6	6.7	7.0			
Bergen County	6.6	6.7	7.2			
Excepting:						
Borough of Edgewater	6.6	6.7	7.0			
City of Garfield and Borough of Wallington	..	..	7.3			
Boroughs of East Paterson, Paramus and Ramsey; township of Wychoff and town of Mahwah	..	..	7.5			
Passaic County	..	..	7.3			
Excepting city of Paterson and Borough of Hawthorne	..	..	7.5			

Changing Fueloil Characteristics Discussed at Chicago Meeting

MEETING AT CHICAGO May 18, a group of 100 oilburner manufacturers and petroleum industry executives and technicians surveyed the generally changing characteristics of heating oils and considered what should be done to best handle the new oils in the design of future burners.

The meeting was called by I. J. Fairchild, Chief of the Div. of Trade Standards, National Bureau of Standards. There was no detailed discussion that could lead to a conclusion on the exact specifications of catalytic heating oil, although very general statements on this subject occupied most of the meeting.

Burner manufacturers were particularly anxious to have something specific on this point, for they can't go far in postwar burner planning without it. But the refiners are yet too uncertain about it to release any dependable specification.

A variety of war products is being made in the catalytic crackers, and this variety causes the by-product, heating oil, to vary widely. Again, the nature of the base stock charged to the catalytic unit has much to do with what comes out as fueloil.

Studying the specifications of ten different catalytic distillate heating oils shows such a wide range that it would be impossible to design a stable or all-inclusive specification; this probably can't well be done until near the end of the year.

The ten oils studied varied in viscosity from 16.0 to 35.0; in impoint from 423° to 466°; in endpoint from 600° to 630°; in sulphur content from .39% to 2.30%; in pour point from —5° to 15°; in flash point from 192 to 230; and in aniline point from 79° to 133°.

No one of the samples had all of the more desirable characteristics, and no one had all of the worst ones. At the war end, with military product out of the way, or minimized, there is good possibility of refiners working out blends that will be stable in specification, but meanwhile the fueloil distributor and his customers can expect to get quite a variety. This will be particularly true in the East, where much of the product comes through the "Little Inch" line. If an oil company is allocated, or owns, 100,000 barrels in the line, it naturally takes the run that is given it, and this may be straight run, thermally cracked or catalytic.

Catalytic cracking capacity of the oil industry is expected to reach its peak this Summer. Next heating season apparently a quarter to a half of all distillate fueloil will be catalytic. The percentage depends upon how much of it is channeled to war uses, such as the 702 Navy diesel, now in strong demand.

In studying the action of the average catalytic fueloil in pressure atomizing burners, it is clear that they must have more air to get a clean flame, without excessive soot. The oil is heavier and the combustion needs more oxygen. This reduces CO_2 about one percent, and raises stack temperature moderately, decreasing overall efficiency probably three percent.

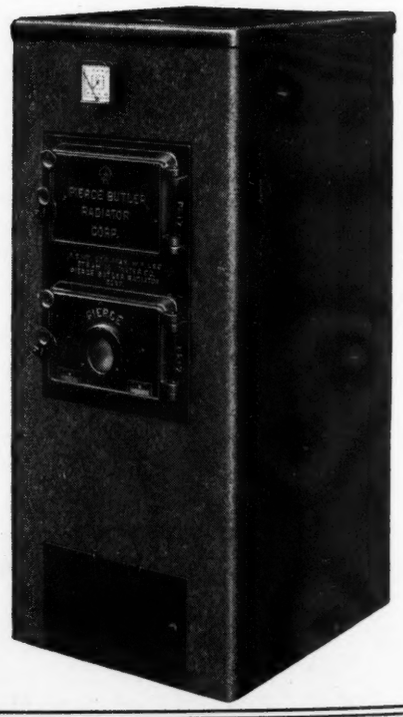
Top Efficiency for Steam, Water or Vapor Systems

PIERCE "Oil FIFTY"

. . . a designed-for-oil home boiler up to 10-room capacity

Product of extensive research and long experience with oil fuels, Pierce "Oil Fifty" stands high among today's leading boilers in heating efficiency and fuel economy. Size and shape of the heating surfaces are designed in relation to the flow of gases to give rapid absorption of the high heat production of oil fuels. The boiler is designed to accommodate a built-in domestic hot water heater for year-round use. Heavily-lined safe lock doors reduce heat losses. The inspection door is fitted with a Pyrex observation glass.

Five sizes of the Pierce "Oil Fifty" are scientifically scaled to the heat output needed by popular-size homes. Only a minimum space is required in your plan for this highly efficient heat machine. Specify for any system.

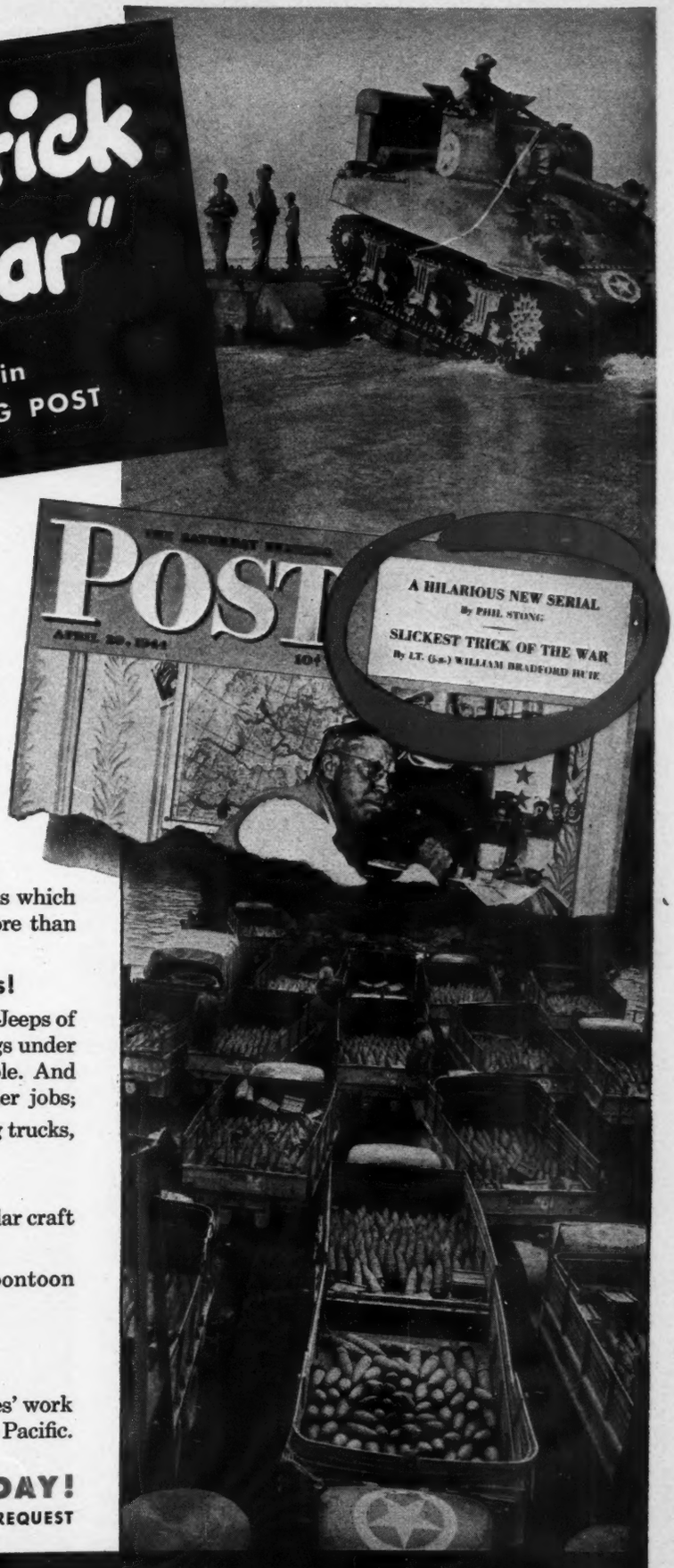


Write or wire for complete description and data.

Pierce Butler Radiator Corp.
SYRACUSE 6, N. Y.
Member — Institute of Boiler and Radiator Manufacturers

"Slickest trick of the war"

says a naval officer in THE SATURDAY EVENING POST



IT'S THE "JEEP OF THE SEABEES"

(BROWNIE-BUILT NAVAL PONTOON)

The amazing story of the role of Brownie-built naval pontoons, in making "impossible" assault landings in Italy, the Marshalls and all over the globe, has now been *told for the first time* . . . in an article by Lt. (j.g.) William Bradford Huie in the *Saturday Evening Post* for April 29. We want you to read this story!

"Slickest trick of the war" is the naval officer's term for the interlocking box-like steel pontoons which Brownie craftsmen have been producing for more than two years.

The Magic Box for a Thousand Jobs!

With these Brownie pontoons, often called the "Jeeps of the Seabees", the navy makes successful landings under conditions previously considered insurmountable. And these magic boxes are used for hundreds of other jobs;

Makes causeways from ships to shore for landing trucks, guns, tanks and supplies . . .

Provides barges for movement of material . . .

Builds dry-docks for repair of PT boats and similar craft

Constructs piers by interlocking pontoons . . .

Makes seaplane ramps by arrangement of pontoon sections (widely used in the South Pacific) . . .

Builds buoys and naval markers . . .

READ THE COMPLETE STORY!

Read the full story, just published, of the Seabees' work with these pontoons in the Mediterranean and the Pacific.

ARMY E NAVY

WRITE TODAY!
FREE REPRINT ON REQUEST

BROWN STEEL TANK COMPANY

NOT AFFILIATED • ONE OFFICE, ONE PLANT • MINNEAPOLIS, MINNESOTA

But, on the other hand, the catalytic oil has more Btu's per gallon which may be expected to offset the lowered efficiency, and the usable heat should be about the same.

When a burner has been adjusted for catalytic fuel and then gets a run of the straight run or thermal-cracked oil, it will have excess air, with correspondingly lower efficiency, but apparently nothing can be done about it. It would be a bit burdensome to adjust the burner at each oil delivery. So if a dealer is in a market where he knows that he will get during next season some catalytic product, it would be advisable in making Summer burner adjustments to set them for a little excess air, about enough to reduce CO_2 between ½ and 1% as compared to the burners normal operation. Then whatever oil the burner gets should not produce serious smoke nor soot.

At the Chicago meeting, the question of adding another grade of residual was discussed, and general agreement reached that this should be done promptly. There is need for three grades instead of the present two. Specifications on No. 6 will get the least change, but the present No. 5 will in effect be split into two grades, one usable without preheating and the other requiring a preheater.

◈

New England Oil Men Hear Government Officials

THE INDEPENDENT OIL MEN'S ASS'N. of New England, of which John Scott is president and Clyde Morrill executive director, held its 21st annual convention and war conference at Boston's Hotel Statler May 11th. With one exception, all principal speakers were Government officials, who explained current thinking of the various agencies they represent.

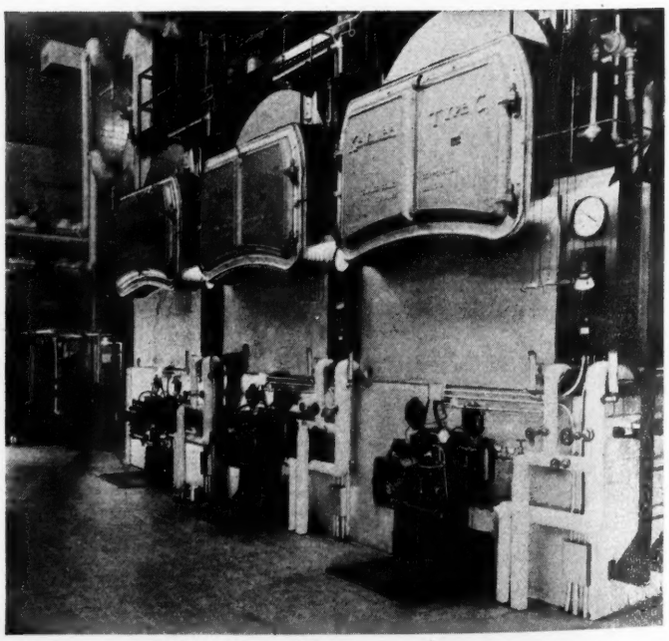
The morning session, with Lionel Jacobs as moderator, was conducted in the style of a New England town meeting, in which A. R. Whitman, director of OPA's Fuel Rationing Division, and Shad Polier, chief enforcement officer for fuel and gasoline rationing, occupied the dais, made brief talks and then let the members fire questions. The subject was enforcement, and in a few exchanges the gloves were off and no holds barred. Polier is a vigorous, forthright speaker, and if he didn't convince all of his audience that OPA's enforcement policies are basically right, neither did his protagonists persuade him that much was wrong.

At the afternoon meeting Quincy Adams, Director of the Small Business Div. of the Department of Commerce, explained what the Department is planning to help small business enterprise in the postwar period. G. H. Freyermuth, of the Research Div., Standard Oil Co. of N. J., described the outstanding development of new petroleum products under the war's impetus.

After-dinner speakers were J. Howard Marshall, Chief Counsel and Ass't. Deputy Administrator of P.A.W., and Colonel Bryan Houston, Deputy Administrator for Rationing for O.P.A. Marshall sketched the world petroleum picture, showing how all United Nations' oil is now under joint control for the good of the war, and how our civilian supplies are now an item in total world demand. Houston explained how any scarce product is always self-rationed by its own scarcity, and that Government programs simply bring orderly distribution to replace the chaotic.

Heat for a 5-room cottage . . . or a 500-room hotel!

Johnson Burner dealers can compete successfully on any Heating Job



Whether the call is for a model installation like this one in the two-million-dollar Bankers Life Company Building (installed by Carbon Coal Co., our dealer in Des Moines) or for a lunchroom Range Burner . . . Johnson dealers are in a preferred position to get the business.

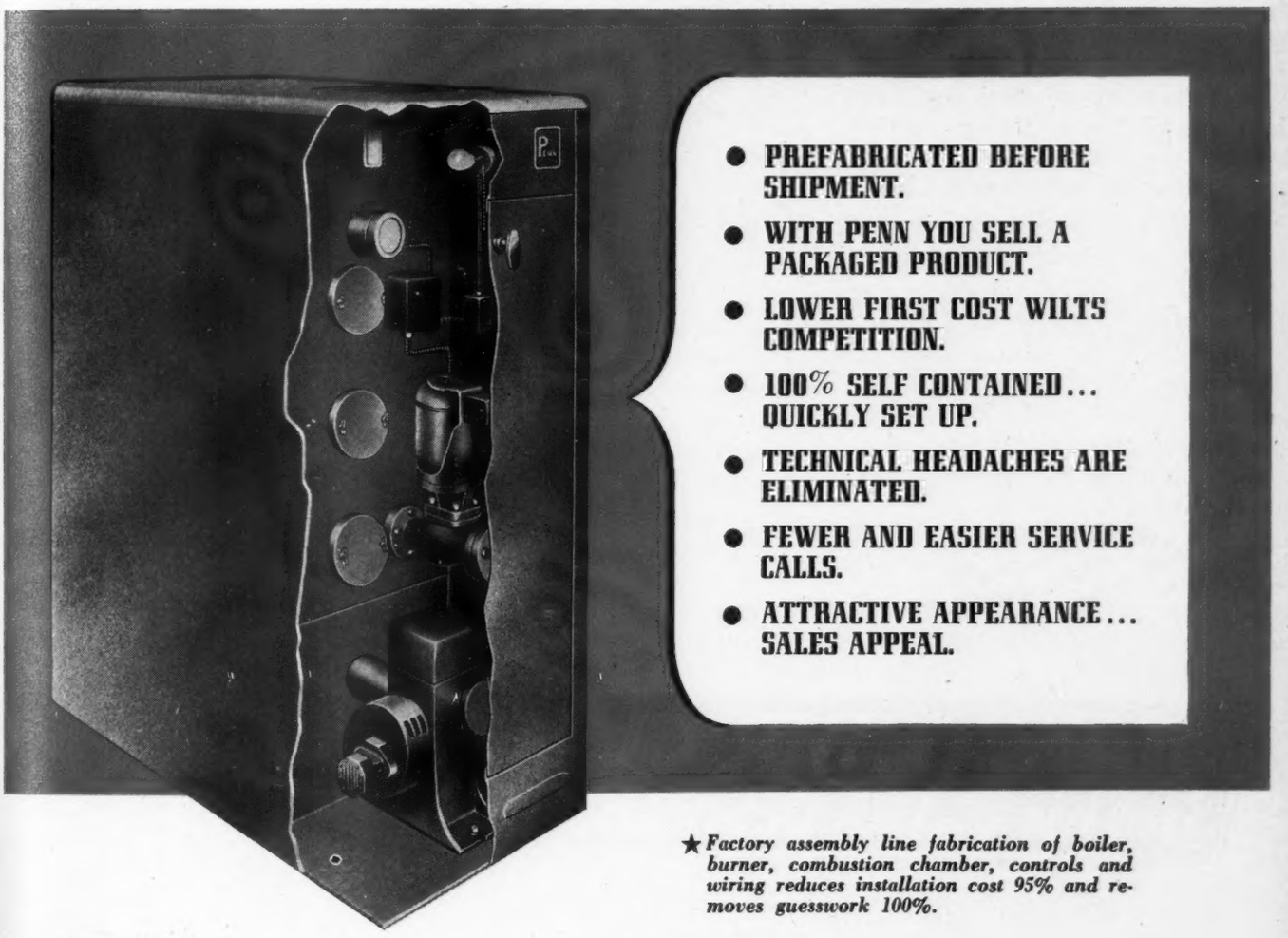
Behind them, to back up their selling, is an organization with 41 years of single-minded oil burner experience . . . an engineering staff that will help with technical problems . . . and a *complete* line that has earned the goodwill and respect of Heating Engineers and Architects all over America.

If you want a profitable post-war dealership, it will pay you to investigate the possibility of getting a Johnson Burner franchise. There are a few territories open. We will gladly give you details. S. T. Johnson Co., 940 Arlington Ave., Oakland 8, Calif., and 401 No. Broad St., Philadelphia 8, Pa.

S. T. JOHNSON CO.

41 years of engineering and building fine Oil Burning Equipment

★ PACKAGED BY PENN Means More Dealer Profits



- PREFABRICATED BEFORE SHIPMENT.
- WITH PENN YOU SELL A PACKAGED PRODUCT.
- LOWER FIRST COST WILTS COMPETITION.
- 100% SELF CONTAINED... QUICKLY SET UP.
- TECHNICAL HEADACHES ARE ELIMINATED.
- FEWER AND EASIER SERVICE CALLS.
- ATTRACTIVE APPEARANCE... SALES APPEAL.

★ *Factory assembly line fabrication of boiler, burner, combustion chamber, controls and wiring reduces installation cost 95% and removes guesswork 100%.*

DEALERS who realize the importance of the trend to put home services in unit form . . . such as refrigerators, radios and laundry equipment . . . can readily see why low cost, Penn Packaged Heat will have outstanding post-war preference in residential modernizing and building. Fewer service calls, lower cost that wilts competition, modern eye appeal, obvious perfection of design, simplicity of control . . . these are some of the reasons why you should get the complete Penn story now . . . so that you will be prepared on the not-so-distant day when Penn finishes its war job and turns to furnishing packaged heating units for profit minded dealers.

PENN

PACKAGED by PENN
- BOILER BURNER UNITS
- AIR CONDITIONER UNITS
- PENNGUN WATER HEATERS
- HYDRO-AIRE (SPLIT SYSTEMS)

BOILER and BURNER MANUFACTURING CORP.
LANCASTER, PENNSYLVANIA

fuel oil & oil heat

Postwar Home and Equipment Revealed in Survey Returns

POSTWAR AMERICAN HOMES will be of conventional appearance outside, but will be modern in equipment and interior decorations, according to 2,443 questionnaires returned to Small Homes Guide, New York, results of which now have been compiled. Based on answers of 2,182 people who will build after the war, the typical home will be built with a basement, have six rooms, cost about $5,600 —and will be oilheated by a forced warm air system.

Small Homes Guide, in its 11th issue (Fall and Winter, 1943) published a questionnaire which was voluntarily returned by readers. Answers to a variety of questions were compiled from the first 2,443 returns, and are being offered by the magazine at $5.00 per set.

More than a third of the people who replied want to burn oil for heat. The percentages of heating fuel preference were:

Oil	36.5%
Gas	28.2%
Anthracite	11.3%
Bituminous	10.0%
Electricity	.3%
Wood	.2%
No Answer	13.5%

Of those who want to burn coal, 43.8% want a bin-fed stoker; 30.3% want a hopper-fed stoker; and 16.4% will fire by hand. Fireplaces are desired by 85.4% of the prospective new home owners. Water will be heated by gas in 31.3% of the homes, and by electricity in 28%. Built-in attic fans scored with 23.2%.

Forced warm air heating presently is almost exactly as popular as fueloil. Public preference for types of heating are:

Forced warm air	36.6%
Forced warm water	19.2%
Panel Heating	15.4%
Steam	9.9%
Gravity warm air	7.3%
Gravity warm water	4.3%

People desiring boiler systems are 43.8% for a heating plant designed for the specific fuel they select, and 37.8% want conversion type boilers for all fuels. (This may reflect the recent necessity of changing fuels under wartime conditions). The boilers will be 56.4% steel and 26.5% cast iron. Radiators will be recessed for 35.1% of the new homes, and will be thin tube type for 28.7%.

Replies to the questionnaire were well distributed according to population concentrations. The East North Central States contributed 27.2% of the returns; Middle Atlantic 18.4%; and Pacific 14.5%. Other sections' returns ranged from 3.4% in the East South Central to 9.3% in the South Atlantic area.

Answers came 33.2% from people who now own their own homes; 32.1% from people now living in apartments, and 29.9% from families in rented homes.

The 2,182 who plan to build will pick the suburbs in 39.6% of the cases, the country in 24.2%, and in medium sized city for 16.8%. Remodelling will take place 34.2% in the country, 24.6% in the suburbs, and 19.3% in small towns.

STAKE YOUR CLAIM
In This EXTRA-DESIRABLE Field

Two and a half million home owners in this section (one of the wealthiest, most thickly populated in the country) burn hard coal. With increasing emphasis on comfort, convenience, cleanliness and automatic control, a tremendous number of them are ready-made prospects for automatic anthracite stokers.

NOW is the time to stake YOUR claim to a franchise so you may be sure of your share of the inevitable post-war stoker business. BE READY to meet the demands that are sure to flood in the moment war-time restrictions are lifted . . . AT A GOOD PROFIT!

The HARD COAL Area

This is the anthracite producing and consuming area . . . a mine of good business prospects for YOU!

GET ON YOUR TOES FOR POST-WAR DEVELOPMENTS

Our brochure, "OPPORTUNITY," soon to be released, will tell you about selling plans, dealer helps, and a complete line of coal burning equipment developed from the experience of fifteen years of domestic anthracite stoker specialization. SEND US YOUR NAME FOR OUR MAILING LIST.

CMW CATSKILL METAL WORKS, INC. CATSKILL, N.Y.
ONE OF THE LARGEST PRODUCERS OF ANTHRACITE STOKERS

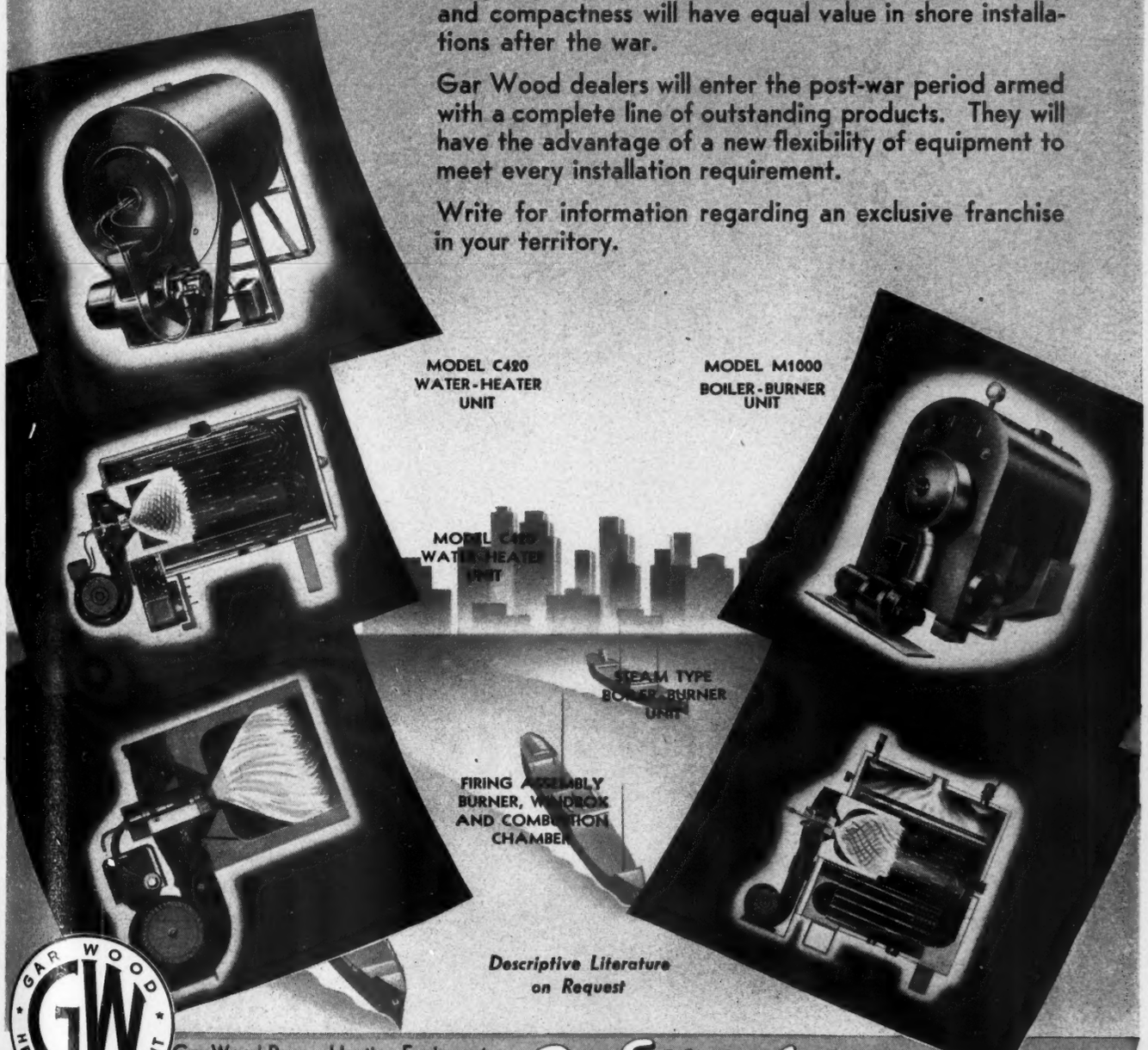
Gar Wood

Gar Wood pioneered the manufacture of Boiler Burner Units seventeen years ago and followed that development with the original Furnace Burner Unit, the Tempered-Aire, shortly thereafter.

The units shown here cover a range of from one hundred thousand to one million BTU's per hour. They were developed primarily for Marine use but their high efficiency and compactness will have equal value in shore installations after the war.

Gar Wood dealers will enter the post-war period armed with a complete line of outstanding products. They will have the advantage of a new flexibility of equipment to meet every installation requirement.

Write for information regarding an exclusive franchise in your territory.



Descriptive Literature on Request

GAR WOOD GW HEATING EQUIPMENT

Gar Wood Prewar Heating Equipment

OIL-FIRED Tempered-Aire | OIL-FIRED Boiler-Burner Unit | GAS-FIRED Tempered-Aire

Gar Wood **HEATING DIVISION**

GAR WOOD INDUSTRIES, INC.

DETROIT 11, MICHIGAN

Midwest and Pacific Coast Get Pet. Distribution Order

FOR THE FIRST TIME, distribution of fueloil and gasoline to dealers and consumers in the Midwest and Pacific Coast areas, is now formally controlled, in somewhat the same way that the East has been controlled at those industry levels. This step was taken by P.A.W. on May 19 with the announcement of Petroleum Distribution Order No. 20.

The order places emphasis on the first necessity that every dealer supply first the war demands in his community and second, non-highway farm needs—rated as preferential over all other civilian needs. Discriminatory practices in distribution are banned, such as differentiation between customers because of trade classification, affiliation, ownership, operation, control or size; because of buying or selling methods; because of accessibility of transportation facilities, or through imposition of any special conditions not imposed on all other customers.

This means, for example, that a fueloil supplier that sells both to consumers and dealers must apportion his supplies so that his dealers are in position to give customers the same treatment that the supplier gives to his direct consumers.

Another important provision of the order states that, in a time of shortage, those consumers most essential to the war program or to public health and safety shall obtain preference in deliveries over less essential accounts. In effect, it shifts the job of determining what accounts are most essential to the nation's welfare from P.A.W. headquarters to the dealer, since it is felt that the dealer best knows local conditions. P.A.W. tried it in the winter of 1943 without too good results. If they banned candy factories, they found that many of them were supplying the Army; if they decided against pool halls, someone pointed out that many of them were on the second floors of bank buildings, etc.

The fueloil distributor is obligated to supply all customers who regularly received from him, directly or indirectly, their last three months requirements. This gives the supplier a yardstick to state his rationed demand. The order does not, however, bind the customer to any one supplier.

with
B&W
INSULATING FIREBRICK

With fuel oil so hard to get, you'll make your customers your friends by installing fuel-conserving B&W K-20 Insulating Firebrick combustion chambers in their heaters, boilers or furnaces. This lightweight insulation absorbs little heat, attains operating temperature quickly and answers the thermostat promptly. CO_2 increased, smoke and smell reduced. Easy to install. Will save up to 10 per cent on fuel consumption. Write for full details.

ARMY E NAVY

R-182

BABCOCK & WILCOX

THE BABCOCK & WILCOX COMPANY
Refractories Division
85 Liberty St., New York 6, N. Y.

Army Burner Men Plan Return to This Industry

IN A WIDE SURVEY of men in the armed forces by the Los Angeles Examiner, 72% of those who were oilheating and airconditioning service and installation men say they will return to that work postwar if physically able. In addition there will be some new recruits to the industry among men who have learned this type of service work in their Army or Navy jobs—7% of those who have learned the business from Uncle Sam plan to work at it after the war.

Another interesting disclosure from the survey is that 26% of those who were prewar burner service men say that they have learned a lot more about their own business while serving the war, while 47% say they have learned a little more about it. But how ever you may analyze these percentages, it is obvious that the industry is going to have a sizable job of training new men for service and installation work if oilheating is to expand as it now appears that it will.

Here's another advantage Mueller furnace dealers enjoy:

. . . the Mueller

SEASON-STAT

. . . an exclusive control that keeps any Mueller automatic heating plant in step with the weather

Your future success depends on having the most complete heating service to sell — with the most talking points. That's what you have when you concentrate on the Mueller line.

The Season-stat Control is just one example. This exclusive Mueller control balances the heating plant to the weather — holds it down in milder weather, steps it up in colder weather. It shuts off the oil burner in accordance with the temperature of the air in the plenum of the unit, which is determined by the setting of the pointer on the Season-stat.

The attractive instrument may be located on the wall of any first floor room, and by merely changing the indicator, long periods of air circulation are attained, under any outdoor temperature conditions.

The temperature of the air being circulated in mild weather is relatively low and therefore the heat being delivered to the rooms of the home is in proportion to the heat being lost from the walls, ceiling, etc. This continuous movement of air, delivering the quantity of heat required per hour, provides the utmost in home comfort.

Write for bulletins on this and other features of the nationally-known, nationally-advertised Mueller line. Look to Mueller for continued leadership in heating progress. *L. J. Mueller Furnace Co., 2009 West Oklahoma Avenue, Milwaukee 7, Wisconsin.*

F-8

Mueller Series 50 Oil-fired Winter Air Conditioner—Three Sizes. Small size equipped with either vaporizing or pressure atomizing burner. Larger sizes with pressure burner only.

Mueller Series OHP Horizontal Type Oil-fired Winter Air Conditioner — Equipped with Mueller Vaporizing Oil Burner.

Mueller Series OVP Vertical Type Oil-fired Winter Air Conditioner — Equipped with Mueller Vaporizing Oil Burner . . . Burner and controls enclosed.

MUELLER *Climatrol*

HEATING AND WINTER AIR CONDITIONING

fuel oil & oil heat

Recent Ration Amendments

Amendment 3. Modifies the provision governing rations for boats. Provides that upon application to the board accompanied by a current ODT permit, a ration for residual oil only may be issued for the use of a boat for commercial pleasure cruising, guiding or fishing parties, or sightseeing.

Amendment 4. Sets for the general provisions under which a person may apply for a renewal ration for the 1944-45 season, explaining who may apply, how the ration is figured, what types of coupons are to be issued, etc. Too lengthy to detail here, its essentials were in the May issue, page 38, where the ration plan changes were described.

Amendment 5. A ration may be issued for fueloil burning equipment designed to furnish domestic hot water even though there is available for this purpose central heating or cooking equipment using an alternate fuel. This applies to Summer only. Also for Summer, a ration may be issued for oil for cooking even though the applicant may have a coal or wood stove.

Amendment 6. States that current Period 5 coupons remain valid through September 30, 1944. During October, any consumer still having unused Period 4 or 5 coupons may exchange them at boards for current Class 3 coupons. The amendment also sets forth period starting dates for all zones. These were published in the May issue, page 38.

Amendment 7. Provides that where a dealer has been prohibited by District offices from making deliveries to consumers on coupons that have been stripped from the stubs, he may now do so without adding another violation.

Amendment 8. Provides that a dealer may accept customers coupons on deposit only if he issues the customer a receipt showing name, address, date deposited, serial number and class of coupon sheet, gallonage value (separating units and fixed value coupons), and he must retain a copy of the receipt for inspection. In sending the receipt to the customer, he must note on it the gallonage value of any coupons previously deposited and still valid. He must keep a record of each invoice against deposited coupons. The detail on this is important. Better get a copy from O.P.A. office.

Burnham
RADIANT WARMTH
SINCE 1873
186,000 MILES PER SECOND-
WITH
NO
DRAFTS
I-B-R
DID you ever hear of anything traveling that fast without creating a draft?
Radiant Rays, the kind you get from the sun or a Burnham Radiator, do exactly that — giving off their Radiant Warmth to everything in their path.
With Radiant Heat, you feel the COMFORT but not the HEAT —so specify Radiant Heat and be sure to include Burnham Boilers and Radiators.
BURNHAM BOILER CORPORATION
IRVINGTON, NEW YORK—DEPT. O
ZANESVILLE, OHIO—DEPT. O.
Export Department, 50 Church Street, New York 7, N. Y.
NOW IN STOCK AT ALL WAREHOUSES
Dole Air Valves
McDonnell Feeders and Cutoffs
Taco Heaters, Circulators, etc.
Thrush Circulators, Heaters, etc.
Vinco Boiler Cleaner, etc.
Burnham Boilers

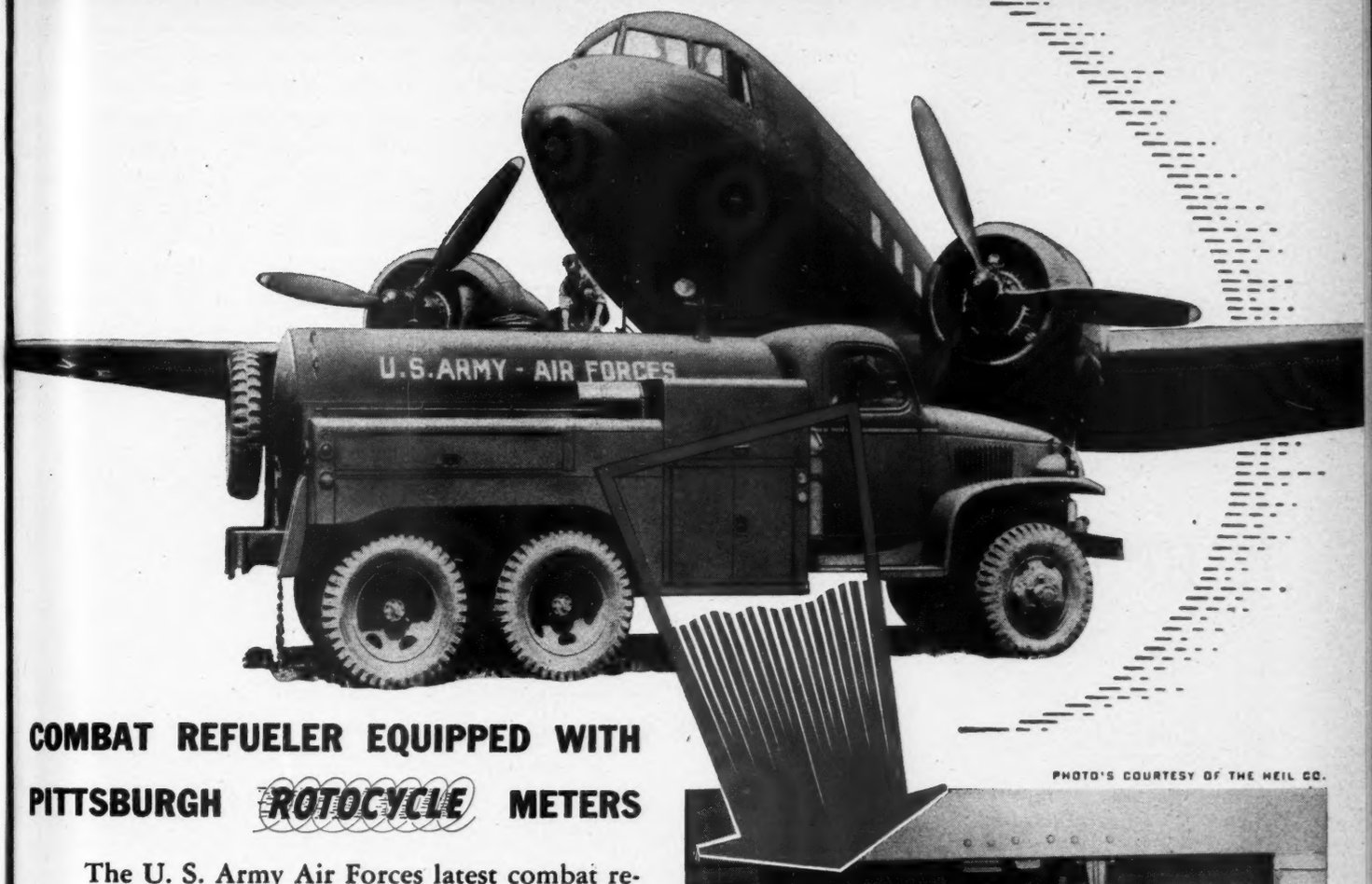
Myron Holmgren to O.P.A.

MYRON R. HOLMGREN, vice-president of Hughes Oil Co., Chicago, will join the Fuel Rationing Division of O.P.A. July 1 as Chief of the Fuel Oil Rationing Branch. He has been a member of the Division's Industry Advisory Council since its inception. With 17 years fueloil distribution experience, he is a valuable addition to the O.P.A. staff.

Mack Personnel Changes

FOUR SALES DEPARTMENT changes have been announced by F. F. Staniford, president of Mack-International Motor Truck Corp. F. F. Vreeland, former district manager of Bronx and White Plains, N. Y., has been named manager of the Albany branch. M. J. Chollet is the new district manager at St. Louis. C. L. McLure now heads the Louisville branch. Cone T. Bass is Central Division manager.

SUPER SERVICE - *On the Run!*

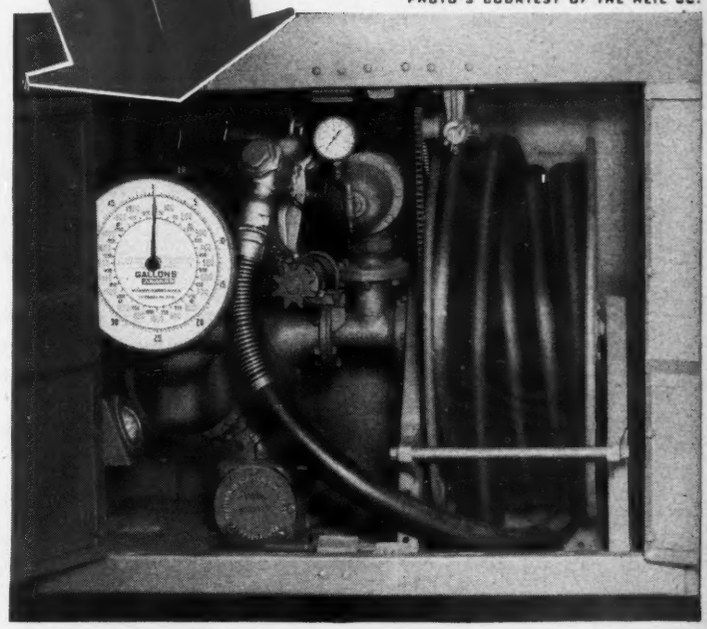


COMBAT REFUELER EQUIPPED WITH PITTSBURGH *ROTOCYCLE* METERS

The U. S. Army Air Forces latest combat refueler is virtually a super-service station on wheels. It is designed for use at advanced air strips. Only slightly larger than a jeep, highly versatile in use and maneuverable in action, this refueler provides another vital link in the chain with which our armed forces are enmeshing the Axis.

Highly versatile too, are the Pittsburgh Rotocycle Meters through which these refuelers service combat aircraft. Large capacity and free operation with extremely low pressure absorption make Rotocycle Meters ideally suited to the exacting requirements of this service.

PHOTO'S COURTESY OF THE HEIL CO.



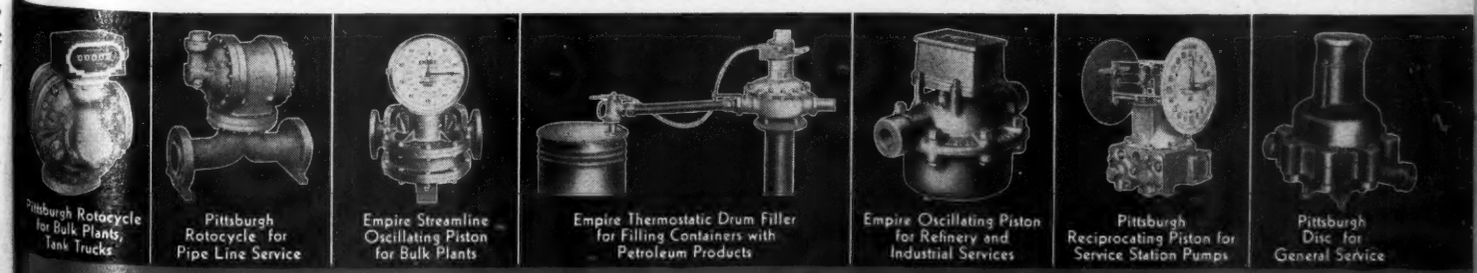
Close-up view of hose reel and meter compartment on side of combat refueler showing Model B-3 Rotocycle Meter mounted on strainer base. This refueler has a capacity of 750 gallons and is so designed that it may be quickly converted to dispense either high octane gasoline or aircraft engine lube oil.

PITTSBURGH EQUITABLE METER CO.

Atlanta, Brooklyn, Chicago, New York — **MERCO NORDSTROM VALVE CO.** Main Offices, PITTSBURGH, PA. — Boston, Buffalo, Columbia, Houston, Kansas City, Los Angeles, Pittsburgh, San Francisco, Seattle, Tulsa

National Meter Division, Brooklyn, N. Y.

There's A Pittsburgh-National Meter for Every Type of Service



Pittsburgh Rotocycle for Bulk Plants, Tank Trucks

Pittsburgh Rotocycle for Pipe Line Service

Empire Streamline Oscillating Piston for Bulk Plants

Empire Thermostatic Drum Filler for Filling Containers with Petroleum Products

Empire Oscillating Piston for Refinery and Industrial Services

Pittsburgh Reciprocating Piston for Service Station Pumps

Pittsburgh Disc for General Service

MANUFACTURERS OF THE MOST COMPLETE LINE OF PETROLEUM METERS IN THE WORLD

Supreme Court Upholds O.P.A. Suspension Right

THE U. S. SUPREME COURT, in a May 22 decision upheld the power of O.P.A. to issue suspension orders against firms that have violated rationing regulations. The Court split eight to one on the decision, with Justice Owen J. Roberts dissenting. The ruling settled the famous L. P. Steuart & Bros., Inc., enforcement case.

This Washington fueloil distributor had been convicted of selling fueloil without coupons. O.P.A. attorneys contended that by so doing the Company had taken a lot of customers away from other distributors, so the nature of the suspension penalty was that the Company must in future restrict its fueloil sales and deliveries to those customers who were on the firm's books Oct. 21, 1942.

Minn.-Honeywell Announces Several Personnel Changes

HARRY C. JENKINS, formerly Midwestern zone manager for Minneapolis-Honeywell Regulator Co. has been promoted to manage the Company's newly created "Moduflow" division. Jenkins has been with M-H since 1921, starting as a damper control salesman. Assisting him in the new position will be John E. Peterson, Milford G. Bird and Bruce F. McLouth.

Appointment of two new branch managers and two supervisors was also announced. Kentner L. Wilson, formerly industrial manager of the Cleveland office will be branch manager at Detroit. Charles Locke, formerly at Albany, is now Indianapolis branch manager. D. J. Peterson is now in charge of all original equipment business at Cleveland, and Edward Clucas has been placed in charge of the Modutrol Div. for Indianapolis.

H. B. Van Cleve to Assist Atlantic Conf. Expansion

AT ITS THIRD ANNUAL meeting in New York last month, the Atlantic Coast Oil Associations Conference voted to reorganize its program for greatly expanded activities, and H. B. Van Cleve, president of Maritime Petroleum Corp. was appointed chairman of a committee to prepare and report at the next meeting details of the proposed expansion.

Lionel Jacobs, chairman of the Conference, and Clyde Morrill, executive director, were reelected.

SUNDSTRAND MACHINE TOOL CO. has compiled six of its pump service advertisements into a booklet issued as Bulletin 110. The illustrations instruct the servicemen in required operations to clean the strainer, check the valve, correct poor cut-off, eliminate noise, eliminate "tank hum" and correct suction troubles. Copies are available from Rockford, Ill.

COLEMAN LAMP & STOVE CO., Wichita, has issued a consumer booklet telling "The 'Inside' Story of Tomorrow's Home Heating." It debunks the sensational stories of magic heating in the immediate postwar period, and sells oil and gas floor furnaces, stoves and central heating plants.

WHITE MOTOR CO. is offering a Driver Training Program calculated to develop the cooperation and efficiency of drivers. A "Driver's Manual" and other training aids are supplied as part of the program.

BURIED TREASURE!

There's a hidden profit for you in FULFLO FILTERS!

And overhaul time is the time to cash in on it. If any of the oil-burners in your care don't have FULFLO FILTERS on them, by all means put one on now when you overhaul . . . on every burner, but above all, on the troublesome ones.

The profit on the original filter or the annual replacement of its Honeycomb Filter Tube is a small part of the story. The biggest profit is in freedom from troublesome service calls . . . by complete elimination of fouled points or clogged nozzles due to dirty oil.

The hidden profit lies in the word-of-mouth advertising you'll get from burner-owners who are not merely satisfied but *enthusiastically pleased* with their installations. This enthusiasm has a definite cash value to you. It's the best advertising you can get and it means more business and happier business.

But order *now!* We're making thousands of filters of all kinds for the Armed Forces. And while we've been able to take care of our oil-burner friends without too much delay, the Armed Forces come first!

COMMERCIAL FILTERS CORPORATION
Boston 27, Mass.

Fulflo FILTERS
REG. U.S. PAT. OFF.

Model AS-4 wtih replaceable filter element. Capacity 20 G.P.H. – approved by Underwriters. Throw-away unit, Model TU-4, has same capacity, costs about half.

SPECIFY *FULFLO* FOR POSITIVE DEPTH FILTRATION

Our valiant fighting men have their job cut out for them. It's a tough job, a cruel job . . . but they're doing it well.

The job of those of us at home is relatively easy, though no less important, and we must make certain that *we* do it well, too. Our duty is to buy war bonds regularly, every payday . . . as many as we can . . . and when we reach a point where it becomes a sacrifice to buy another, to dig down in our pockets and buy it anyway.

It won't seem like much of a sacrifice when we consider what an extra bond can do. To our armed forces, that bond will bring equipment; equipment will bring invasion; invasion will bring Victory; and Victory will bring Peace. Can we ever hope to buy more with our money?

That's the story, America. Our fighting men need our help. Whatever we do, let's not fail them now.

5TH WAR LOAN

SILENT GLOW OIL BURNER

THE SILENT GLOW OIL BURNER CORPORATION, HARTFORD, CONNECTICUT

fuel oil & oil heat

Service in the Black

(*Continued from page 39*)

higher costs, older cars, and more travel.

Garage expense allocated to the department was cut through economies effected in car and truck housing arrangements. Gasoline now is being taken from the company's own bulk storage rather than being bought at outside filling stations, chipping 21% off the bill. Repairs were up 57% in 1943, compared with 1940, due to a larger number of company cars on the street, and the greater age of the equipment, and licenses and insurance items also reflect the larger number of S & W cars in use. Depreciation is down because of the greater age of the company-owned equipment.

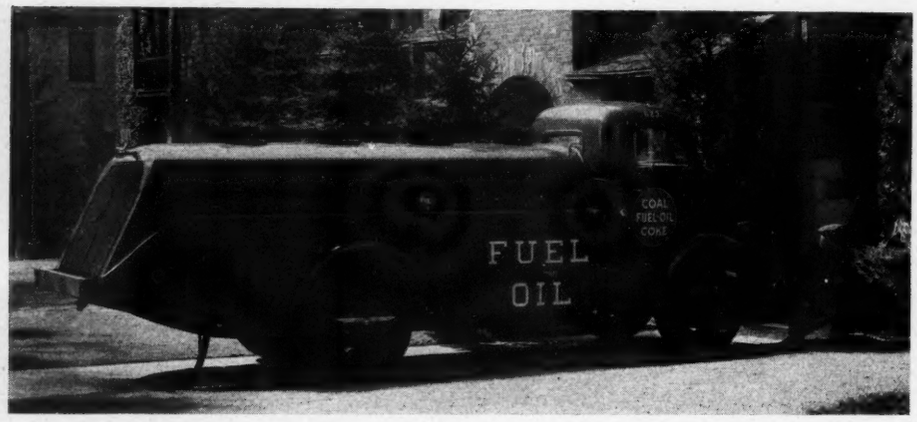
Sales Commissions in 1943 had dropped more than 70% due to the virtual elimination of new work. Dispatchers' and stockroom salaries were cut by management economies making less time necessary on these jobs. Permits and inspections are required only on new installations or major repairs and modernization, therefore this item has almost disappeared.

Payroll taxes are down with the fewer number of men employed, and insurance was carried only on servicemen's own cars used for service work to protect the company from liability while the cars were on service work. With fewer servicemen's own cars on the street for the company, this insurance item has decreased.

Economies that have been effected under present conditions have cut 46% out of the 1940 department overhead, and slashed 50% from the total cost of service. This was done while losing only 41.1% of the department income.

The net result of 1943 service department operations was a profit which represents 15.3% of income, instead of 5.1% on the 1940 income. Such an improvement is impressive expressed as a profit percentage, but in dollars and cents it becomes an increase of 120% over 1940 when conditions were "normal."

Significant in these operations is the fact that a service department can be run not only to pay its own way, but to show a substantial profit for the dealer. Oil-burner service need not continue to be the stepchild of dealer operation, and certainly, it never again should be "free." It is fervently hoped that that the hard lessons forced by war can be carried over to improve peacetime business.



Kinkproof, Non-flattening Construction Means More Quick-Stop Deliveries!

"NEWTYPE CORD"

(U. S. PAT. NO. 1948410)

FUEL OIL HOSE

Less time is required to unreel, fill a customer's tank and reel-up again, with the full, fast flow assured by patented "Newtype Cord" construction, plus Goodall's non-swelling "Synplastic" tube. Even when partially reeled or sharply bent, the maximum inside diameter is retained . . . no shrinkage of the tube to retard the rush of oil from truck to outlet.

Light in weight, extremely flexible, easy to handle. Available in all standard sizes.

It will pay to equip your trucks, now, with this *Goodall quality* hose. Our nearest branch will gladly furnish prices and complete information.

GOODALL RUBBER CO., Inc.

MAIN OFFICE: 9 South 36 St., Philadelphia 4, Pa.

THE GOODALL-WHITEHEAD COMPANIES

Branches and Distributors from Coast to Coast

Factory—Trenton, N. J. Established 1870

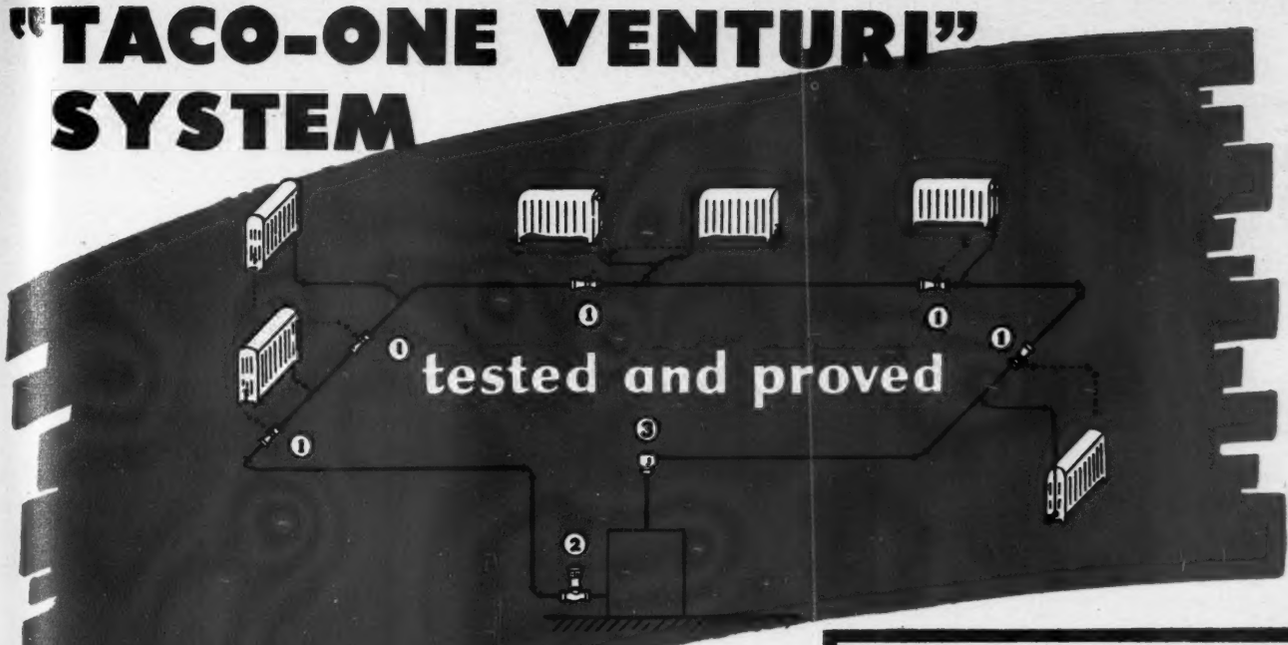
74 Years of "Know How" — Our Most Valuable Commodity

Warns Against Duct Fires

"AIR CONDITIONING system fires, like those of the automobile in its early days when the car which didn't burn up was usually the one which won the road race, will be largely eliminated when the causes are fully understood," said fire-preventionist John Neale, chief engineer of Underwriters' Laboratories, Inc., Chicago, at the third day's session of the Northwest Fire School in the Public Safety Building, May 17.

"Loss of life and property has resulted from air conditioning system fires but can be prevented in the modern air conditioning system," Mr. Neale said, "by proper design and maintenance and the use of such safeguards as fire-resistive air filters tested by Underwriters' Laboratories, non-combustible ducts, fire-resistive duct linings and insulation, automatic fire shutters in the duct systems to prevent the spread of fire, and electric eye smoke detectors coupled with alarm systems and electrically connected to shut down the system when fire breaks out.

"TACO-ONE VENTURI" SYSTEM



RADIANT HEAT PLUS-

The "Taco-One Venturi" System offers all the advantages of radiant heat . . . plus—

the predictable performance of a system proved by successful operation of thousands of installations,

complete room-heating by radiant heat plus convected heat,

simple, inexpensive, easily installed piping and fittings,

automatic summer and winter hot water,

inconspicuous radiators; small heating plant, adapted to ground-floor installation,

circulated warm water; with an even, *friendly* heat.

. . . and many other advantages for the wholesaler, contractor and home owner. Ask your wholesaler, or us, for literature giving further details of this post-war business-building heating system.

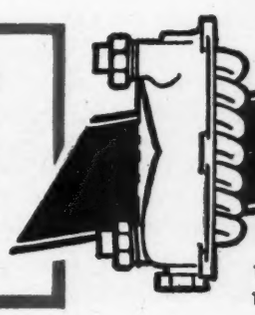
1 Taco Venturi Fitting

2 Taco Hy-Duty Circulator

3 Taco Flow Check

PEACETIME HERITAGE

One of Taco's contributions to Victory is Naval-aircraft machine-gun mounts. As a result of these contributions, we now have more precision equipment and more skilled workers—available for post-war production of Taco products, made to their former standards of excellence.



TACO-ABBOTT SYSTEM

Taco

TACO HEATERS, INC., 342 MADISON AVE., NEW YORK 17, N. Y.
TACO HEATERS of CANADA, LTD., 24 ADELAIDE ST. W, TORONTO

fuelfoil & oil heat

Amazing NEW ECONOMY in Oil Heating!

Allen's
PATENTED
"Low Pilot"
Oil Burner
PROVIDES HITHERTO
UNHEARD-OF FUEL SAVING!

The pilot light in the 10-inch burner, uses less than ⅓ gallon of oil in a 10-hour period, operating on low pilot.

Listed as Standard by Underwriters' Laboratories, Inc.

FORGET all your past ideas of fuel economy in oil heating! Something new and sensational is on the way—ALLEN'S "Low-Pilot" Burner for pot-type oil heaters, originated by Allen engineers and thoroughly *field-tested.*

This new Burner owes its remarkable fuel-saving economy to a specially designed pilot light which permits fast, *low-pilot-to-high-fire,* burner operation in mild or changing weather. Fuel wastage in overheating is reduced . . . *stand-by* fuel consumption is drastically cut.

ALLEN is all set for quantity production of pot-type Heaters with this revolutionary new Burner, as soon as WPB gives the "go ahead" signal. Get in line now for the big sales and profits in the future. For details, write Dept. O.

ALLEN MANUFACTURING COMPANY, INC.
NASHVILLE, TENNESSEE
"Quality Stove Builders Since 1867."

General Controls Branches Opened in Boston, Cleveland

STRENGTHENING FIELD distribution and service facilities, General Controls Co., Glendale, Calif., has opened new branch offices at 687 Boylston St., Boston, and at 1505 Broadway, Cleveland. The Boston branch is under the direction of William Marsh, and the Cleveland branch manager is L. E. Wetzell.

Marsh

Wetzell

The Company also announces that it has been awarded the Army-Navy "E" for excellence in producing automatic controls for aircraft and ordnance.

◈

Lt. Alexis Doster, Jr., son of Alexis Doster of Torrington Mfg. Company, was awarded the Distinguished Flying Cross posthumously for a test "involving great personal risk in air-ground exercises, September 5, 1943." Lt. Doster died October 1, 1943, in the Middle Eastern war theatre.

J. Francis Lund, manager of the Air Valve Division of the Dole Valve Co., Chicago, talked before the May 16 meeting of the Massachusetts Oil Heating Association on "How Oil Can Be Saved by Installing Proper Air Valves."

Ned F. Foulds has resigned as chief of the Fueloil Section, P.A.W. District I after three years with the agency. He is to be vice-president and general manager of Industrial Oil & Gas Co., New York.

J. Neil Brophy, formerly New England oilburner distributor for Enterprise Engine and Foundry Co., San Francisco, has been assigned to the Engine Div. of the Company, with Boston headquarters.

R. L. Irvin, formerly industrial manager for Westinghouse Electric at Chicago, has been appointed application manager of the Company's Small Motor Div. at Lima, Ohio.

Robert L. Coe, vice-president of Chase Brass & Copper Co., was re-elected president of the Copper & Brass Research Association, May 25.

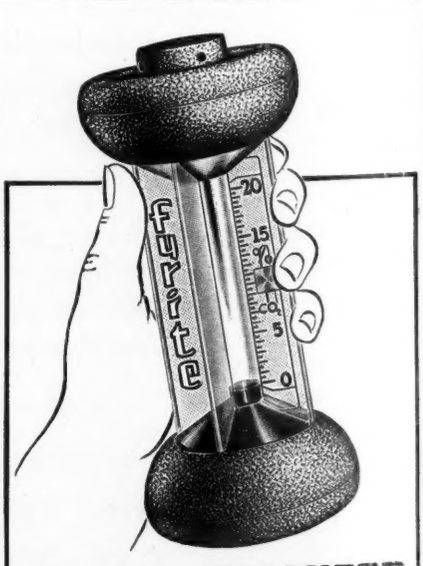
FITZGIBBONS BOILER CO. has been granted its second production award, and now carries a white star on its Army-Navy "E" flag.

KRESKY MFG. CO., Petaluma, Calif., has been awarded the Army-Navy "E" for its excellence in production of oilfired heating units for the armed forces.

ENERGY CONTROL CO., New York distributors of combustion instruments and specialties, has published a new and informative complete catalog of its entire line.

THE PHILIP CAREY MFG. COMPANY, Cincinnati, Ohio, has announced the appointment of C. B. Pooler as Vice President in Charge of Manufacturing. The Carey Company operates nine plants in the United States and Canada.

SHELL OIL CO., INC., announced the appointment of four executives of the Company to become officers. E. Chester Peet, formerly assistant treasurer, becomes vice-president and treasurer. Cyrus S. Gentry, general counsel and secretary becomes a vice-president. John W. Watson, treasurer, will become assistant treasurer of Shell Union Oil Corp. Wm. H. Garbade succeeds Mr. Peet as assistant treasurer.



The CO_2 ANALYZER
That Simplifies Combustion Tests
Companion Draft Gauge and Mercury Thermometer also available.
Bacharach Industrial Instrument Co.
7000 Bennett Street • Pittsburgh, Pa.

HEATING EQUIPMENT *Plus!* THAT'S LUXAIRE

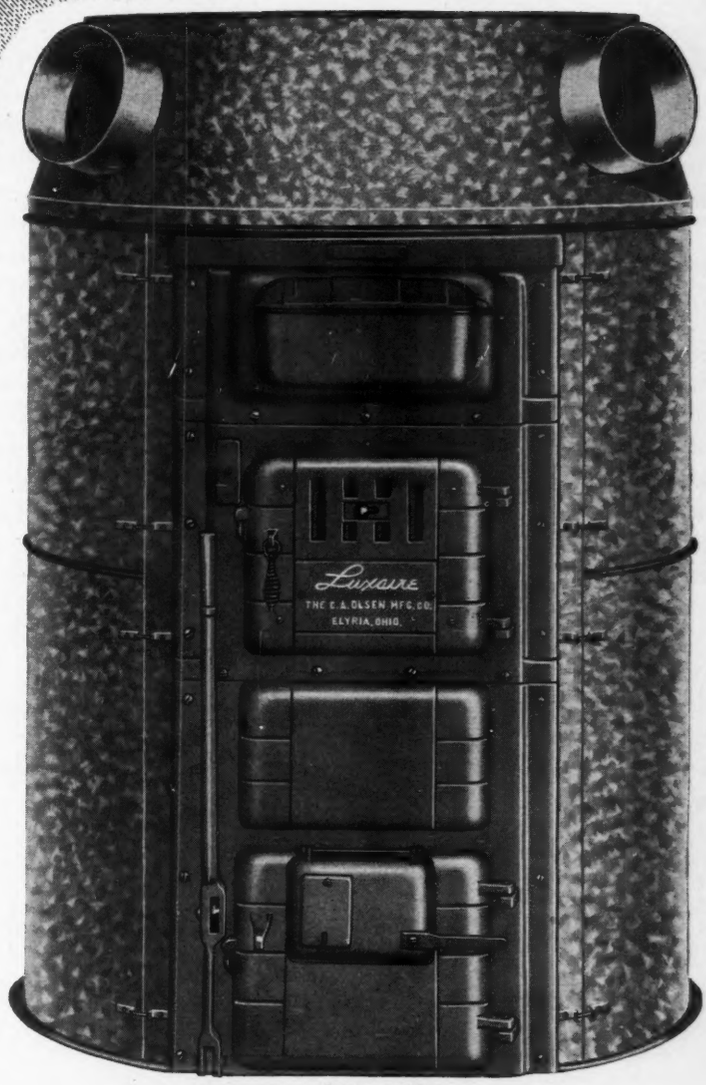
LUXAIRE furnaces were outstanding before the war. After the war they will reflect wartime knowledge of ways and means of better, faster, stronger and more economical manufacturing.

Throughout the war years, Luxaire research and development engineers have been planning, developing and testing new ideas that assure superior Luxaire products.

Heating Contractors! Looking ahead is the order of the day! Prospective home builders and many present home owners are looking ahead to heating systems of advanced design and construction.

Heating Contractors! NOW is the time to look ahead! To tie in with Luxaire's complete line of heating equipment! Equipment that embodies "years ahead" principles in design and construction.

You'll be "Dollars Ahead" with Luxaire's "Years Ahead" warm air heating and air conditioning equipment.



Series 600

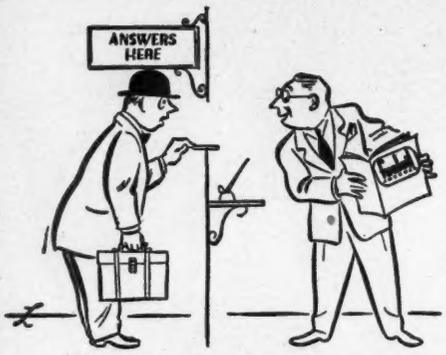
Luxaire

BUY MORE WAR BONDS AND STAMPS

WARM AIR FURNACES . . . AIR CONDITIONING UNITS . . . COAL . . . GAS . . . OIL

THE C. A. OLSEN MANUFACTURING CO. **ELYRIA, OHIO**

Fueloil & oil heat



Reader's Problems

Q. This one pipe steam heating plant has about 6,500 sq. ft. of standing radiation on two steam mains which are 70 and 165 ft. long. The owner now draws our attention to a difficulty he says started years ago when automatic burners took the place of hand firing. The longer steam main gives the trouble. When he fires one boiler to save fuel in mildly cold weather, the radiators on the end of the longer main stay cold even though the rooms near the boiler are overheated. The problem lies in heating all the radiators evenly when one of the two boilers is fired.

R.S.A., Detroit.

A. We assume that every radiator is equipped with a properly adjusted vent-valve, to adapt the system to oil firing, and that the steam mains have modern quick-vents. These specialties are needed with on-off firing for good heating and low fuel consumption during severely cold as well as mildly cold weather.

The accompanying drawing, based on your sketches and the notes on them, shows the longer main but not the shorter main which gives no trouble. Also it indicates radiators on two floors for simplicity, though the building has four floors.

With the boilers of such capacity that two are needed to carry the load, and with oil fires of proper sizes for the boiler capacity, running the two burners for about 45 minutes may generate enough steam for all the radiators and give steam to every radiator before the burners stop. The boilers are warm to begin with, let us say, although they are not steaming at the start of this 45 minute "on" period.

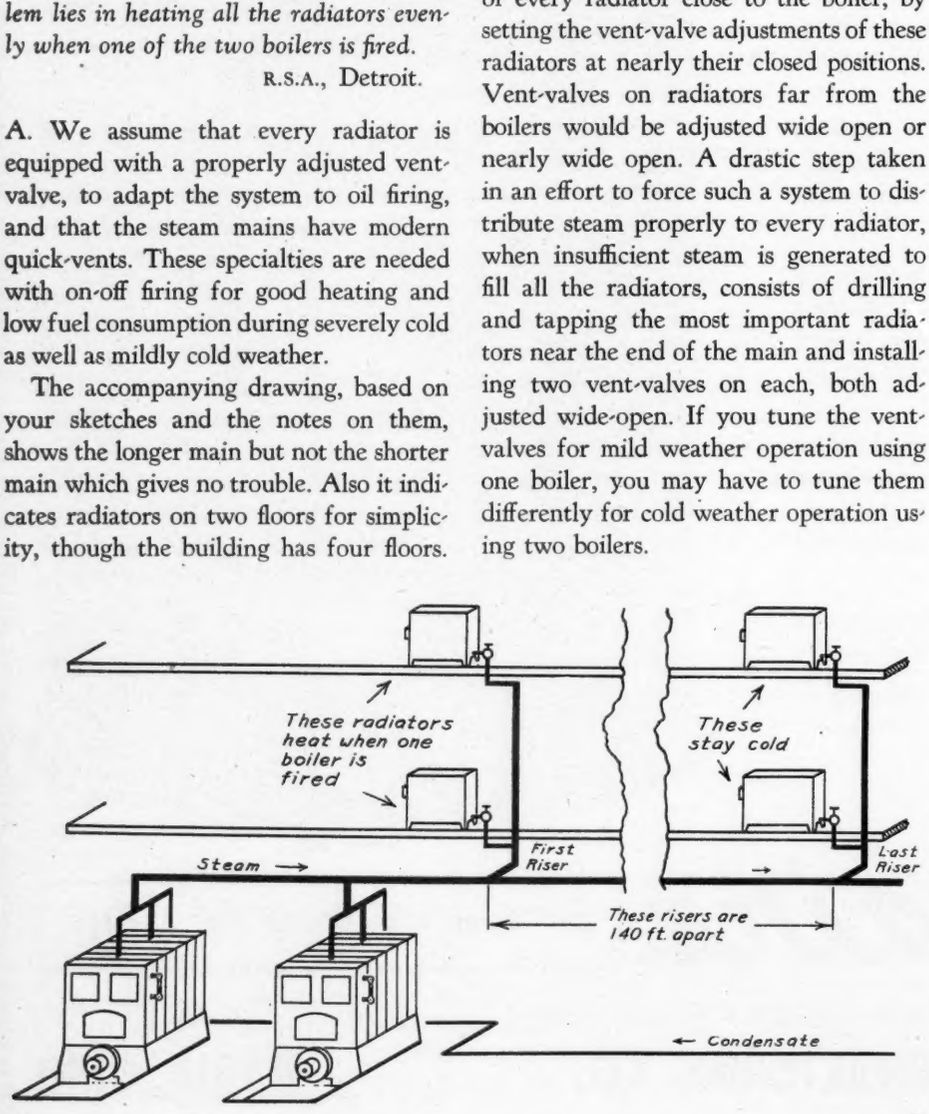
But running only one of the burners for 45 minutes produces half the amount of steam that two burners would produce in that length of time, and to judge from your letter does not produce enough steam to heat the radiators on the end of the longer main. Running one burner for three or four hours still may not produce sufficient steam to heat every radiator fully, or to drive the air from the most distant radiators.

True, you can attempt to tune the system for proper operation on one boiler during mildly cold weather. This may entail, for example, severe "holding back" of every radiator close to the boiler, by setting the vent-valve adjustments of these radiators at nearly their closed positions. Vent-valves on radiators far from the boilers would be adjusted wide open or nearly wide open. A drastic step taken in an effort to force such a system to distribute steam properly to every radiator, when insufficient steam is generated to fill all the radiators, consists of drilling and tapping the most important radiators near the end of the main and installing two vent-valves on each, both adjusted wide-open. If you tune the vent-valves for mild weather operation using one boiler, you may have to tune them differently for cold weather operation using two boilers.

It is by no means certain, however, that fuel consumption will be lower in mildly cold weather when one of the two boilers is fired. This applies even though considerable effort is made to tune the system for mild weather operation using one boiler. For many steam heating plants, when heat is needed it is best to generate enough steam in a reasonably short time to make sure of heating every radiator properly; starting with the plants warm but with no steam in the mains, enough oil should be fired per hour so that the burners do not have to operate more than 80 minutes to drive all the air from the radiators and arrive at a definite steam pressure on the boilers, say a minimum of ½ lb. to 3 lbs. depending on how much steam pressure is needed for positive heating of every radiator.

The owner of these burners should be told that his ultimate answer to the problem, which will permit gaining fuel economy by using one boiler in mildly cold weather, lies in room thermostats for each room or in one room thermostat for each apartment and store in the building.

He should be given to understand also that when coal was hand fired in one boiler during mildly cold weather and all the radiators heated properly, the boiler was being forced at a much higher steaming rate than is used now with the carefully controlled oil fires.

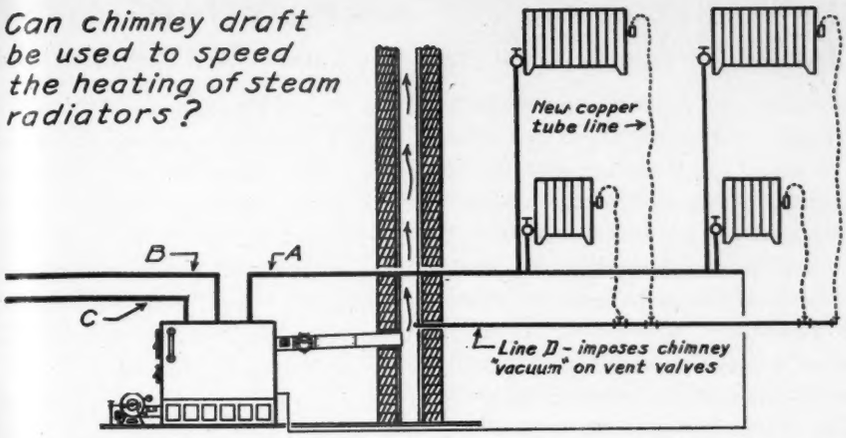


Q. I plant to use chimney draft to draw steam to radiators. This idea is not my own. I have seen old style two-pipe vapor systems with air vent lines that run to chimneys. Now I have devised a good way to apply the idea to radiators of an installed one-pipe steam plant.

As my sketches show, I will connect small copper tube lines to the radiator vent valves, and run these tubes to a basement pipe which has an open end in the base of the chimney. The vacuum of the chimney, which increases when the burner operates, will speed the heating of radiators by sucking the air from them. Chimney draft serves in place of the vacuum pumps in modern steam plants for large buildings.

My problem is to figure out how much fuel will be saved by using this idea, as the fuel savings will warrant installing my system now for several one-pipe heating plants. For example, main A in the

Can chimney draft be used to speed the heating of steam radiators?



sketch carries 312 sq. ft. of radiation which serves a very hard-to-heat part of the building. Main B carries 408 sq. ft., and main C carries 355 sq. ft. About how much oil will be saved yearly by using this vacuum vent idea to speed the heating of the radiators on main A, when the plant uses 6,000 gallons a year to begin with?

P.H.C., Albany, N. Y.

A. The application of chimney draft unfortunately will not speed heating of radiators because the "vacuum" at the chimney is too faint to make a difference to the radiators. In the old two-pipe vapor systems you describe, the designer may have run the air-vent lines to the chimneys because occasionally small amounts of steam, which would be a nuisance in the basements, escaped by accident from the air-vent lines.

Apparently you seek to gain the fuel economy that results, for example, from using a pump to apply 10" mercury vacuum to the radiators of a modern system. A 1" vacuum lifts water 13.6", therefore a pump which keeps 10" vacuum on the radiators is providing sufficient vacuum to lift water 136". Good chimney draft on the size plant you indicate may lift water .25" or 1/4". Thus the vacuum pump provides, under these conditions, 544 times the suction that the chimney provides. In the modern steam plants you mention, used in large buildings, higher vacuums than 10" often are used. 22" may be used, for example, to gain fuel economy.

If this particular plant wastes oil because of the slow heating of the rooms served by steam main A, make sure the plant has no shortcomings which cause this slow heating. This calls for a thorough check-up of the radiator sizes and heat losses of every room in the building. Check also the size of the boiler for the load, the pipe sizes, the insulation on the piping, and the venting specialties. Check the firing rate of the burner, and use combustion testing instruments to measure the quality of combustion.

Your answer to the problem, for this particular plant, probably lies in providing zone control. Install an automatic steam valve for line A, controlled by a thermostat in one of the rooms heated by this steam main. Similarly, install automatic steam valves for lines B and C, controlled by thermostats located properly

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Investigate the "Teesdale" T.U.X. Fully-Automatic OIL BURNER PUMP with 30-gallon per hour capacity, self-priming, leak-proof, silent and trouble-free features. Vapor and oil-tight and all parts are interchangeable.

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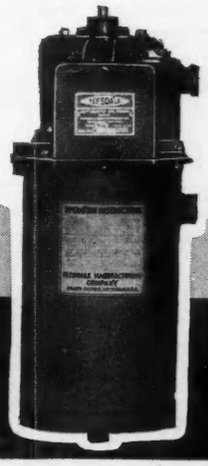

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T.U.X. PUMP
Heart Beat of the BURNER'S OIL FLOW

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MANUFACTURING CO.
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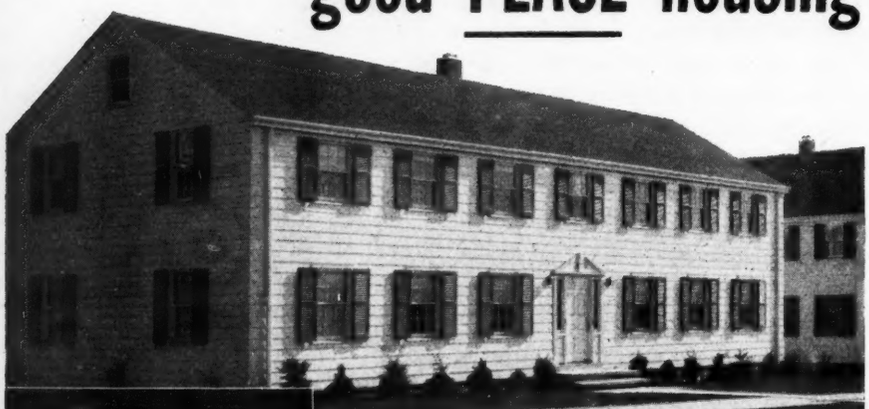
GRAND RAPIDS 3, MICHIGAN

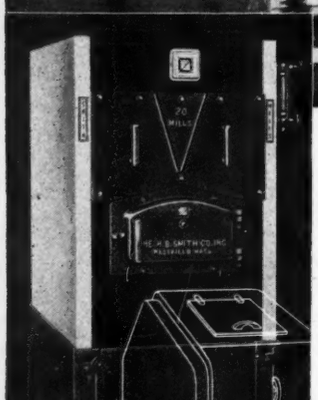
in the sections of the building heated by these mains. Do not maintain steam pressure on the boiler all winter. Instead, have the burner start (and then be controlled by a vapor control or pressure control) when any of the three automatic steam valves opens. Have the burner stay idle when all three automatic steam valves are closed. This will save considerable fuel, perhaps 25% to 35% of that used now to judge by the results obtained in other buildings, if fuel is being wasted because one section of the building is more difficult to heat than the other sections.

Boiler and Radiator Inst. Invites Accessory Members

TO PROVIDE A UNITED FRONT for educational and promotional activities on behalf of steam and hot water heating, the Institute of Boiler and Radiator Manufacturers has amended its constitution to invite associate membership by firms other than boiler manufacturers. Associate membership will include manufacturers of equipment related to the operation of boiler heating systems, principally makers of accessories and controls.

WAR housing can be good PEACE housing





No. 20 SMITH "MILLS" stoker-fired boiler installed in each building

Attractive . . . . Well Built New Haven, Conn. Project is Assured Many Years of Dependable Economical Heat by Selection of

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BOILERS

THE Boulevard Housing Project, located in view of Yale Bowl, is an outstanding example of War Housing built with an eye to the future. These trim Colonial four family dwellings were built for rental by private capital as a permanent investment as well as to alleviate New Haven's acute housing shortage. Nine units have already been completed with fifteen more under construction. The heating systems are forced circulation hot water and equipment was selected not only to provide comfort for the tenants but to assure lowest fuel and maintenance costs for the owner over a period of years.

THE H. B. SMITH COMPANY, INC., WESTFIELD, MASS.
BOSTON NEW YORK PHILADELPHIA

New P.A.W. District I Committee Appointments

DEPUTY PETROLEUM ADMINISTRATOR Ralph K. Davies announced the appointment of W. Alton Jones, of New York City, and S. B. Eckart, of Philadelphia, as chairmen of the East Coast (Petroleum Administration for War's District I) Industry Supply and Transportation Committee and Distribution and Marketing Committee, respectively.

The two functional committees replace the former Transportation and Marketing Committees created to deal with problems of petroleum transportation, supply, distribution, and marketing in District I when the Petroleum Administration was first established.

Members of the two committees appointed by Mr. Davies are:

Supply and Transportation Committee—W. Alton Jones, president of the Cities Service Oil Company, chairman; J. Frank Drake, Gulf Oil Corporation; W. R. Finney, Standard Oil Company of New Jersey; B. I. Graves, Tide Water Associated Oil Co.; R. R. Griffin, Shell Oil Company, Inc.; Russell Keck, Kendall Refining Company; H. T. Klein, The Texas Company; C. H. Kunze, Socony-Vacuum Oil Co., Inc.; H. A. Logan, United Refining Company; R. M. Parker, Hartol Products Corp.; H. G. Schad, The Atlantic Refining Co.; Don J. Smith, Pan-American Petroleum and Trans. Co.; A. E. Watts, Sinclair Refining Company; J. F. White, White Fuel Corp.; and Frank C. Wright, Lake Tankers Corporation.

Distribution and Marketing Committee—S. B. Eckart, Sun Oil Company, chairman; A. Clarke Bedford, Standard Oil Company of New Jersey; Jacob Blaustein, American Oil Company; J. D. Collins, Tide Water Associated Oil Co.; J. E. Dyer, Sinclair Refining Company; W. L. Faust, Socony-Vacuum Oil Co., Inc.; M. H. Hindman, Pennsylvania Refining Company; W. F. Hartmann, Gulf Oil Corporation; W. H. Kershaw, The Texas Company; Wiley L. Moore, Wofford Oil Company; O. D. Robinson, Republic Oil Refining Co.; J. W. Scott, Buckley & Scott Utilities Co.; M. B. Whiting, Whiting Oil Company; Wayne Yeager, The Atlantic Refining Company; and J. A. Kelley, Cities Service Oil Company.

Furnace Production Tight

MEMBERS OF THE WARM Air Furnace Industry Advisory Committee met with government officials in Washington to discuss problems of general interest to the industry.

Reporting Form WPB 3316, and the data that has been obtained from the form since it became effective on January 1, were discussed by the group. Most of the reports are being submitted promptly, Mr. Norris, the Government Presiding Officer, told the Committee, and the information obtained from them is proving very helpful.

The volume of anticipated production for the second quarter of 1944, according to estimates submitted by the furnace manufacturers on Form WPB 3316, is well above the first quarter production level. Committee members felt that the figures for the second quarter were over-optimistic for a number of reasons. The loss of men, especially supervisory personnel, to the armed services was cited as one deterrent to increased output. Foundries are finding it increasingly difficult to get replacements for the men they have lost, and the Committee felt that this factor would determine the number of cast iron furnaces to be produced. The fact that most of these manufacturers are engaged in filling war contracts, many of which must take precedence over furnace production, was another reason why the group felt that output would probably decrease rather than increase during the second quarter.

Indications that there will be an increase in requirements for small furnaces, used principally in housing, during the third and fourth quarters of 1944 caused government officials some concern, since few furnaces of this type are now being manufactured. Members agreed that the industry itself should attempt to increase output of the 18" and 20" furnaces, and that government action on the problem should be postponed until industry has had an opportunity to try to meet requirements.

The flexibility of the recently announced WPB policy with respect to resumption of civilian production in the various labor areas met with the hearty approval of the Committee members. The policy, as set forth in an administrative order signed by Vice Chairman Charles E. Wilson and in a staff memorandum from Vice Chairman L. R. Boulware, permits the placing of approved production programs in Group 3 and Group 4 labor areas, and in Group 1 and 2 labor areas when they will not interfere with military production.

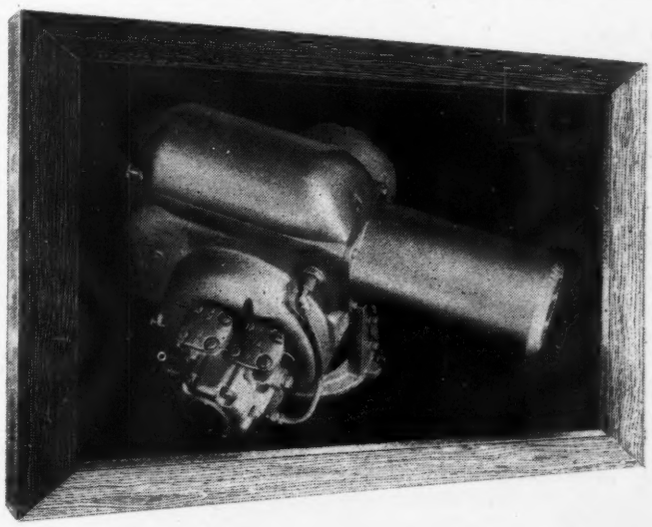
Government officials called the Committee's attention to the present coal situation, and asked the manufacturers to order and stockpile their coal now for the fall season. In view of the anticipated shortage, the industry should, if possible, stock up enough coal now to permit a year's operation.

Oil Leasing in New Jersey

TWO MAJOR OIL companies have leased large sections in the Southern part of New Jersey to test the oil-producing possibilities of the area.

Sun oil Co. and Sinclair Refining Co. have established offices in Woodbine, N. J. as the focal point of operations, and have been leasing land under five year contracts.

Geologists have determined that the region contains the same geographic fault on which the Florida well was successful.



Portrait of a "Salesman"

The oil-thrifty Herco Residential is doing *some of your post-war selling now.* Smooth, economical performance under wartime conditions is building Herco good will. Home owners will want "Heating by Herco" in post-war.

With some of the advance selling already done, *what about your supply of post-war Herco products?*

The answer to this question is Herco's dealer protection plan. It gives you rights to Herco sales in your territory . . . it assures you a full share of Herco products to meet post-war demands.

***This dealer protection is available now.* And it puts you under no obligation. Write Herco today.**

HERCO
The Oil-Thrifty
OIL BURNER

HERCO OIL BURNER CORP.
Lancaster Penna.

Service in Wartime Sales in Peacetime

Long-Swing Weather Changes Affect Degree-Day Normals

DECENTRALIZATION IN THE WEATHER BUREAU business is sometimes about as confusing as in other Government activities—local offices use one set of data while Washington uses another, supposedly to establish the same fact. Some weather bureaus were established much earlier than the average—Chicago, for example, in 1872—but the Washington bureau feels that climates change somewhat over so long a swing and that it is unwise to use such long-year averages for normals.

Studying the problem in an attempt to bring some uniformity into weather reporting for normal degree-days, the head meteorologists in Washington found that by the year 1899 all of the major city stations were operating and accumulating data, and determined that average weather since that date was sufficiently representative to be considered normal. Accordingly, in 1943 the Bureau issued official "normal" tables, by months, for all stations, covering the 43 years from 1899 to 1941, inc., and asked all local stations to use these normals in their reporting.

But, probably because of local pride in their ancient background, about half of the local stations refused to adopt the Washington normals, and continue to report their own. So if you ask Washington for Detroit normals you get a different figure from what Detroit will give. In the degree-day normals carried by this publication, some are Washington figures, some are local. In the interest of encouraging uniformity, Washington figures will be used for all cities after the close

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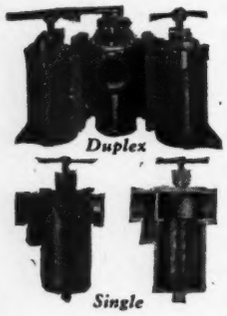
Class 72 Strainers and Filters



Single and Duplex types for suction or discharge service—any practical degree of filtration in units designed for low pressures as well as up to 500 lbs. hydrostatic test—easily removable filter basket insures quick cleaning.

Class 60 Heavy Oil Pumps

Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.

Kraissl-Trumbull No. 522 Fuel Pump Unit

Rugged, dependable wall pump for gravity type oil burners having burning capacity of not more than 3 gals. per hour—Approved by Underwriters' Labs., Inc.

Submit your fuel-line problems to KRAISSL engineers—literature and prices on request.

THE KRAISSL COMPANY INCORPORATED

295 Williams Ave., Hackensack, N. J.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	April		Percent		(Sept. 1 to Apr. 30)			Percent
Normal	1943	1944	Change*		Normal	1943	1944	Change*
549	759	694	+26.4	Albany	6366	7100	7010	+10.1
173	164	173		Atlanta	2967	2812	2847	— 4.0
347	437	361	+ 4.0	Baltimore	4410	4346	4420	+ 0.2
538	649	608	+13.0	Boston	5605	5913	5865	+ 4.6
672	842	721	+ 7.2	Buffalo	6454	6864	6774	+ 4.9
536	583	590	+10.0	Chicago	5946	6548	6245	+ 5.8
374	458	347	— 7.2	Cincinnati	4861	4783	4869	+ 0.1
551	652	602	+ 9.2	Cleveland	5674	6070	6030	+ 6.2
95	49	85	—10.5	Dallas	2364	2314	2418	+ 2.2
523	291	651	+24.4	Denver	5513	4895	5589	+ 1.1
449	458	568	+26.5	Des Moines	6191	6469	6267	+ 1.2
566	679	665	+17.4	Detroit	6391	6515	6417	+ 0.4
575	655	625	+ 8.6	Grand Rapids	6392	6582	6479	+13.6
525	665	598	+12.0	Hartford	5821	6239	6198	+ 6.4
643	533	623	— 3.1	Helena	7191	7953	7343	+ 2.1
38	16	22	—42.0	Houston	1321	1212	1300	— 1.5
414	490	423	+ 2.1	Indianapolis	5304	5536	5301	— 0.1
327	254	448	+33.9	Kansas City	4865	4911	5104	+ 5.1
158	130	184	+16.4	Los Angeles	1258	1081	1310	+ 4.1
302	370	283	— 6.2	Louisville	4329	4452	4256	— 1.6
621	671	733	+18.0	Milwaukee	6615	7269	6820	+ 3.0
580	621	659	+13.6	Minneapolis	7643	8229	7455	— 2.4
32	21	40	+25.0	New Orleans	1207	1205	1232	+ 2.0
467	589	509	+ 8.9	New York	5094	5146	5271	+ 3.4
414	349	568	+37.1	Omaha	5922	6048	6236	+ 5.3
379	521	440	+16.0	Philadelphia	4615	4798	4801	+ 4.0
448	620	502	+12.0	Pittsburgh	5257	5536	5393	+ 2.5
668	804	780	+16.7	Portland, Me.	6753	7409	7415	+ 9.6
370	286	372	+ 0.5	Portland, Ore.	3973	3784	3750	— 5.6
543	632	566	+ 4.2	Providence	5701	5755	5690	— 0.1
305	312	343	+12.4	St. Louis	4514	4582	4623	+ 2.4
450	283	533	+18.4	Salt Lake City	5335	5195	5905	+ 1.0
269	282	354	+31.5	San Francisco	2310	2222	2199	— 4.7
827	947	881	+ 6.5	Sault Ste. Marie	8527	8885	8396	— 1.5
440	341	398	— 9.5	Seattle	4256	4011	3839	— 9.7
534	668	654	+22.4	Toledo	5976	6368	6480	+ 8.4
345	414	342	— 0.8	Washington	4478	4303	4471	— 0.1

*Compared with normal.

You don't usually marry the first girl you meet!

Considering an oil burner franchise is not a one-two-three matter, either.

When the time comes for you to look over the field, take the time to talk to Quiet May.

QUIET MAY OIL BURNERS

● The proven and dependable Dual Utility Oil Heating Unit will be included in the line when we resume production.

May Oil Burner Corporation
Baltimore-3, Md.

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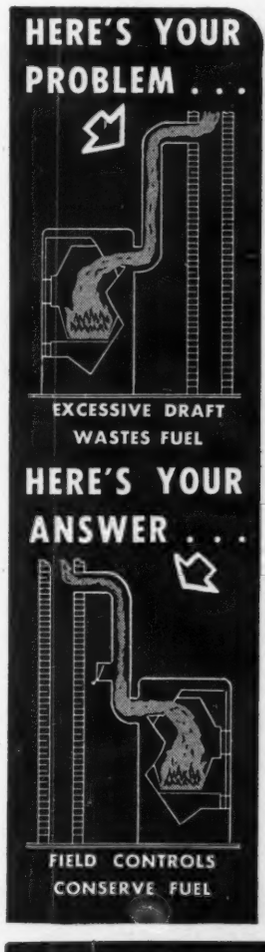
Field Barometric DRAFT CONTROL



★ The delicately balanced, but strongly built Field Barometric Draft Control compensates immediately for the slightest change in barometric pressure. Through all types of weather, it maintains the minimum draft necessary for proper combustion.

★ A Field Control provides fuel savings ranging up to 25%. There is a model adapted to any type or size of heating installation . . . coal or oil. The domestic controls can be installed in as little as thirty minutes; installation requires only a tin snips, a carpenter's spirit level, a little "know-how."

★ Write today for full, free facts. The profit margin on a Field installation is definitely worth while. They require no servicing. The market in your community is almost unlimited, as nine out of ten installations need a money-saving, fuel-saving Field Barometric Draft Control.

FIELD CONTROL DIVISION
MENDOTA, ILLINOIS

of the current heating season.

Interesting has been the Chicago controversy. Based on the local Bureau's 70-year experience, normal degree days are 6,335. Washington's 43-year basis for Chicago shows 6,205. Dividing the 70-year weather history into ten-year periods, average degree-days in the seven decades were: 6476, 6789, 6793, 6426, 6093, 6187 and 6187. The old timers who say we don't know what tough weather is may have a point. The table shows comparisons by cities:

City	Local	Wash.	Diff.
Albany	6,587	6,587	...
Atlanta	2,984	2,995	11
Baltimore	4,580	4,507	73
Boston	5,853	5,853	...
Buffalo	6,805	6,805	...
Chicago	6,335	6,205	130
Cincinnati	4,993	4,993	...
Cleveland	...	6,094	...
Dallas	...	2,376	...
Denver	5,784	5,784	...
Des Moines	6,356	6,356	...
Detroit	6,660	6,502	158
Grand Rapids	6,655	6,655	...
Hartford	6,037	6,037	...
Helena	7,730	7,600	130
Houston	...	1,323	...
Indianapolis	5,459	5,431	28
Kansas City	5,005	4,969	36
Los Angeles	1,362	1,362	...
Louisville	4,421	4,419	2
Milwaukee	6,955	6,955	...
Minneapolis	7,898	7,900	2
New Orleans	1,242	1,206	36
New York	5,270	5,270	...
Omaha	6,074	6,074	...
Philadelphia	4,732	4,730	2
Pittsburgh	5,427	5,427	...
Portland, Me.	7,054	7,128	74
Portland, Ore.	4,214	4,214	...
Providence	5,946	5,946	...
St. Louis	4,602	4,600	2
Salt Lake City	5,591	5,568	23
San Francisco	2,569	2,577	8
Sault Ste. Marie	9,381	8,902	479
Seattle	4,533	4,560	27
Toledo	6,202	6,202	...
Washington	...	4,582	...

O.H.I. of New England Meets

AT BOSTON'S HOTEL STATLER on May 31 several hundred oilheating and fueloil men heard five industry and Government speakers discuss current and postwar problems.

The morning session was led by E. Graham Bates, Regional Director of fueloil rationing and John Rutherford, fueloil rationing officer, who explained in detail the changes in rationing.

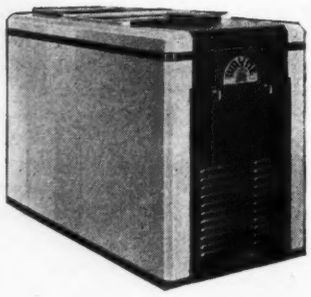
Following the luncheon, Robert Gray, business manager of FUELOIL & OIL HEAT, disclosed the amount of scarce fueloil being used by the gas industry for enrichment purposes and pointed up the postwar probability of intensified gas competition. John Harper, Director of Marketing, P.A.W. District I, explained recent rulings of that agency.

Final speaker was Paul Ryan, Chairman of the Postwar Readjustment Committee of the Petroleum Industry War Council, who examined the effects of war on petroleum product and distribution and outlined some serious thinking on coming influences to our business. Particularly significant were his estimates for the immediate postwar period of greater fueloil supply and lower prices.

Water Heater Jackets May Now Be Manufactured

THE PROHIBITION on the use of metal jackets for water heaters has been relaxed by WPB to permit the use of steel in manufacturers' inventories on May 8, 1944, and such steel as may be obtained from frozen, idle and excess inventories. Because the sheet steel supply is still tight, use of steel from rolling mill supplies for water heater jackets is still prohibited.

WAYNE OIL-FIRED



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60,000 to 400,000 B.T.U.

PROMPT SHIPMENT

on proper priority

The complete line of Wayne oil-burning furnaces and burners is again available.

WAYNE OIL BURNER CO., 926 Glasgow Ave.
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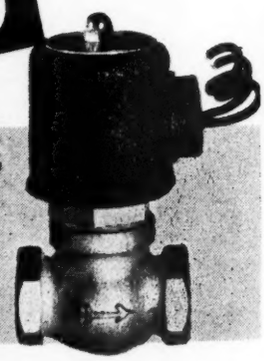
WAYNE'S V-DAY LINE WILL BE COMPLETE

OIL-FIRED, GAS-FIRED, COAL-FIRED FURNACES, STOKERS, BOILERS, WATER HEATERS. CONVERSION BURNERS FOR OIL AND GAS.

LINE UP WITH WAYNE FOR POST WAR PROFITS

K-20



FOR CONTROLLING AIR, WATER, GAS, LIGHT OIL AND REFRIGERANTS

General Controls K-20 Series Valves have a wide range of applications where single needle port sizes provide sufficient flow capacity. Extremely practical and simple in design. Body of high-grade brass. All internal parts are bronze or stainless steel. K-20 Valves are two-wire, current failure, no hum, packless construction. Available for any voltage either A.C. or D.C. Write for catalog.

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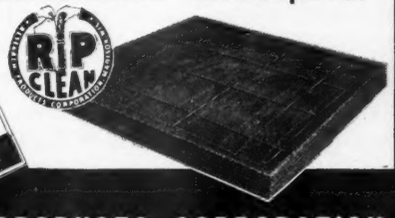
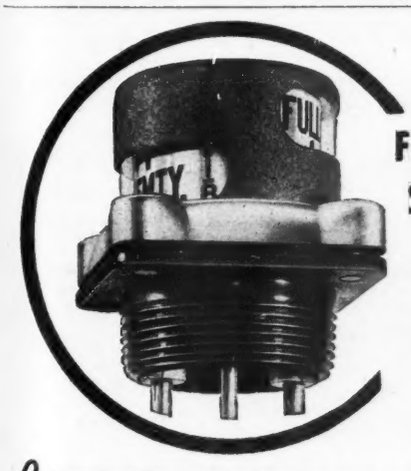
Lists filter sizes for leading furnaces and air conditioning units. Makes it easy to service your customers. Write Dept. FO.



RESEARCH PRODUCTS CORPORATION
MADISON (3) WISCONSIN



FOR CUSTOMER SATISFACTION
Install
ROCHESTER "UNIVERSAL" GAUGES

ROCHESTER "Universal" Gauges are built especially to meet the requirements of basement type oil storage tanks. Double dial —one visible to the delivery man outside the cellar, and one for the owner inside—is a convenient and much appreciated feature. Widely spaced, generous size graduations and figures are made possible by the extreme length of the dial which rotates through a 300° arc. There's no chance of leakage either.

The same magnetic principle used in Rochester Gauges to bring safety in gauging hazardous liquids under pressure is employed in these "Universal" Gauges. That's why they're listed as Standard by Underwriters Laboratories. Rochester "Universal" Gauges are easy to install in any location on the tank and without the necessity of emptying the tank. Obtainable on AA-3 priority from your jobber.

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ROCHESTER Individually Calibrated GUARANTEED ACCURATE INSTRUMENTS
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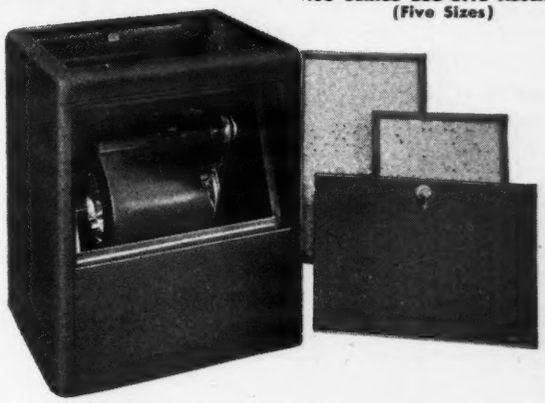
COMPACT ★ EFFICIENT ★ LOW COST

BLOWER-FILTER
package unit

The LAU 400 Series
BLO-ETTE

400 SERIES BLO-ETTE ASSEMBLY
(Five Sizes)



A complete package in attractive streamlined casing that combines all the sturdiness, efficiency, quietness of our larger units. Low priced—result of large assembly-line production. Delivery on acceptably rated orders.

BLO-ETTE Features in a Nutshell

- Shipped assembled . . . will go through any door.
- Large size access door . . . easy to get to the motor or filters.
- Pulley belts easily changed.
- Cold air return easily fitted into top of unit.
- Automatic cut out motor.
- Top motor mounting. Keeps motor away from floor moisture. Permits more compact housing.

SPECIFICATIONS

Unit No.	*Furnace Size*	*C.F.M.*	*H.P.*	*No. of Filters*
400	18″	850	⅙	1
401	20″	1000	⅙	2
403	24″	1250	¼	3
404	28″	1680	¼	4
405	30″	2150	⅓	4

Write us direct or contact your nearest jobber for full information, dimensions, prices.

THE LAU BLOWER COMPANY
DAYTON 7, OHIO
WORLD'S LARGEST MANUFACTURERS OF FURNACE BLOWERS

Engineers and fabricators of general Air Handling Equipment
Single Inlet and Double Inlet Blowers • Propeller Fans • Accessories

Construction Activity First Three Months 1944

NEW CONSTRUCTION EXPENDITURES in continental United States amounted to $993 million in the first quarter of 1944, approximately 58 percent below the level of the same period last year, Secretary of Labor, Frances Perkins, reported. "New construction expenditures of $322 million in March 1944 were about 57 percent less than in March 1943," she said. "Though private construction showed a gain of about 3 percent over the first quarter of 1943 with the total for March, 9 percent above a year ago, public construction expenditures in the first quarter were off 72 percent from last year and in March amounted to only 28 percent of the total for March 1943.

"The increase in the volume of private construction over the first quarter of 1943 resulted entirely from greater activity on nonfarm residential construction, expenditures for which, amounting to $192 million, were 34 percent higher than in 1943. First-quarter activity on all other types of private construction was below the 1943 level. Nonresidential construction dropped 21 percent from $120 million to $95 million. Both farm residential construction and service buildings were off about 17 percent, but expenditures of $108 million on public-utility construction were $1 million less than in 1943.

"Though practically all types of public construction activity were lower than in the first quarter of 1943 the precipitate decline in total public activity was largely the result of the greatly reduced volume of industrial and military and naval facilities construction. Industrial facilities expenditures dropped 82 percent, from $676 million to $124 million, and those for military and naval construction dropped 78 per cent to $196 million. Expenditures on public residential construction fell off 62 percent, from $61 million to $159 million. Highway construction declined only about 18 percent. All other Federal construction was off 35 percent and State and local projects, 30 percent. In sharp contrast, expenditures for public nonresidential construction other than industrial increased four times.

"Nonfarm residential construction last March showed a gain of 39 percent over March 1943, whereas expenditures for all other types of private construction were approximately the same or slightly below a year ago.

"Expenditures for military and naval and industrial facilities and for highway construction decreased between March of this year and March a year ago in approximately the same proportion as for the first quarter of the 2 years. Public residential construction expenditures dropped more, however, while at the same time State and local activity fell off to a lesser degree. Public nonresidential construction expenditures increased from $2 million to $9 million."

◈

UNDERWRITERS LABORATORIES, Inc., has issued Research Bulletin No. 31 on "Combustion and Mechanical Noise in Automatic Mechanical-Draft Oil Burners." This bulletin is a progress report on work assigned to the Laboratories following adoption of the CS-75 commercial standard. No recommendation or noise standard has been adopted. The work will continue.

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The Proof of Superiority!

Year-round EXTRA PROFITS for You this Easy Way

KLEEN-FLO Fuel Oil Conditioner has been tried, tested and used, year in and year out by many great industrial firms, oil suppliers and oil consumers. KLEEN-FLO helps solve many oil burning problems—eliminates waste, reduces service calls, increases oil burner efficiency. Use KLEEN-FLO regularly and look for these outstanding benefits—helps preserve equipment—improves combustion—reduces carbon and soot formation—eliminates "puff backs", odor and smoky chimneys—overcomes water and sludge. One quart of KLEEN-FLO conditions 500 gallons of oil—simply add thru oil fill line. Reduce service costs, while getting your share of this EXTRA business. Write for profit-making facts TODAY.

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KLEEN-FLO
FUEL OIL CONDITIONER
DISTRIBUTED BY LEADING SUPPLY JOBBERS
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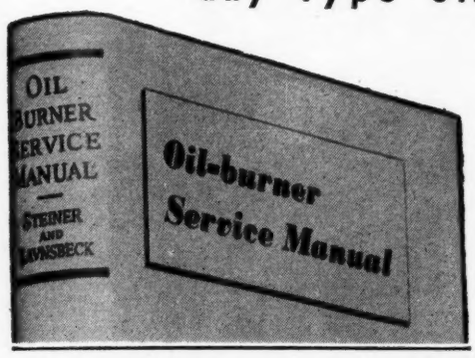
Chicago Office: 308 W. Washington St.

Surer, faster servicing of any type oil burner



now possible with this installation and serviceman's trouble-shooting manual.

OIL BURNER SERVICE MANUAL

By Kalman Steiner, Consulting Engineer, Ray Heat and Power Co.
and Fred Ravnsbeck, Chief Engineer, Ace Engineering Co.

This book gives the oil burner mechanic the precise information he needs on installing and servicing oil burners, in a handy volume in plain language. Exhaustive treatment is accorded to domestic burners, to include all recognized makes from earliest to current types and models.

The reader will gain from this book a complete knowledge of established practice in installation, operation and servicing of oil burners. He will learn how to select the proper size and style of burner for any specific application, how to operate it, and how to secure the most dependable and efficient performance.

365 Pages, 6 x 9, 211 illustrations, 54 tables, $4.00

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USE IT WISELY

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DOMESTIC AND INDUSTRIAL

Current production of Oil Burners is restricted to WPB approved orders of top priority ratings because of war production in our factory.

. . . But our Engineering Division is fully manned and we are rendering every possible service to the trade.

REPAIR PARTS (subject to Priorities Order) are and will be available.

PETROLEUM HEAT & POWER COMPANY

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Please send check or money order with each order or we cannot accept it. Due to manpower shortage we must reduce bookkeeping to a minimum.

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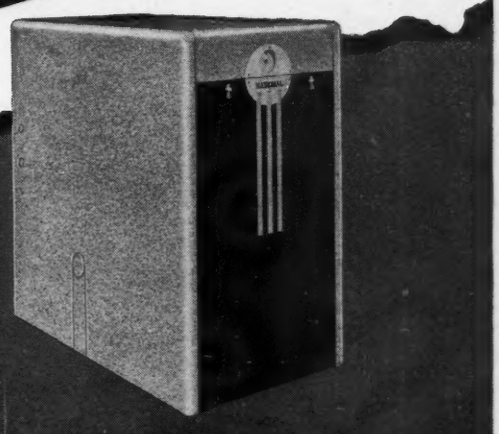

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We still have a limited stock of jacketed oil heating units available from inventory. Shipments may be made for immediate replacement of worn out and inefficient oil heating installations.

Sell these Units now for fuel conservation.

The NATIONAL RADIATOR Co.

218-0 Central Avenue · Johnstown, Pa.

50 YEARS OF SERVICE TO THE HEATING INDUSTRY

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Save.....oil heating units for me.

Rating..... steam ☐ water ☐

Name.....

Street.....City.....

General Electric Company Made First Bazookas

THE COMPLETE STORY of how the General Electric Company produced the first bazooka, "the most important ordnance development of the war," is told in the June 3 issue of *Liberty*.

It reveals two of the so-called secrets of America's industrial might—brilliant engineers and hard-laboring men.

According to the article the Army gave the company an order to design, develop and produce a large quantity of what was officially known as "Launcher, Rocket, AT, M-1"—within 30 days. Normally the whole job would have required six months.

The job of designing the bazooka as the public recognizes it today fell on the shoulders of G-E engineer Jim Powers, who in peacetime worked on the Disposall, a device which disposes of kitchen waste.

It took Powers twenty-four hours to do the job. In four days the first sample gun was turned out and, at the end of three weeks the development of the gun was completed. Seven days were left to turn out thousands!

The assembly line G-E set up was one of the oddest in industrial history. Basically the bazookas were produced in two plants a half mile apart. But within each department the work was scattered over widely separated sections.

As the bazookas came off the production line they were hustled into waiting Army trucks and, literally, were on their way overseas before the stain on the gun-stocks was dry. The last bazooka of this big order came off the line—with 89 minutes to go!

◈

FEES AND CHARGES FOR CORROSION inhibiter services for boilers and heating systems are exempt from price control, the Office of Price Administration announced.

This service consists of a special analysis of the customer's need for a corrosion inhibiter in his heating system by a person with the necessary technical knowledge and the use of prescribed chemicals to retard the corrosive action.

The action, effective May 27, 1944, was taken because the technical knowledge of the person giving the service, rather than the materials used, is the important factor involved in retarding corrosion within a heating system.

◈

H. C. Little Chicago Office

FOR THE GREATER CONVENIENCE of oil burning home heating equipment dealers in the Chicago area, the H. C. Little Burner Co., Midwest Division, announces the moving of their offices from Aurora, Illinois, to 32 So. Jefferson St., Chicago, at the Loop, effective June 1st. The formal opening of the new headquarters for the Midwest Division will be the week of June 5th to 10th, inclusive. Mr. Ken Swift will continue to serve as District Representative.

◈

AN ALL-TIME HIGH production rate of 4,879,100 barrels daily of all petroleum liquids was certified to the various oil producing States for June, 1944, by the Petroleum Administrator for War. This figure represents a net increase of 60,600 barrels daily over the rate certified for May 1944, the previous record high.

"EDCO" PRODUCTS ARE WORTH WAITING FOR!

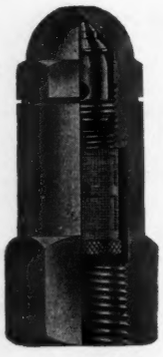


Fig. 246

Right now, "EDCO" production is bigger than it ever was in peacetime. Due to the ever increasing demand for "EDCO" Pumps, Pressure Regulating Valves, Pipe Line Strainers and Spray Nozzles by our Armed Forces, there is nowhere near enough left to meet the civilian demands — but they will be worth waiting for.

"EDCO" products have been good in the past. They will be better in the future—proved on the battle fronts of this war. They'll have still greater dependability assured by the vast experience and unusual exacting manufacturing standards which are adhered to.

With Victory and Peace, "EDCO" production lines will keep right on producing trouble-free accessories to help you build the better world for which we are all fighting.

"Specify EDCO Products on Your Next Order."

EDDINGTON METAL SPECIALTY CO.

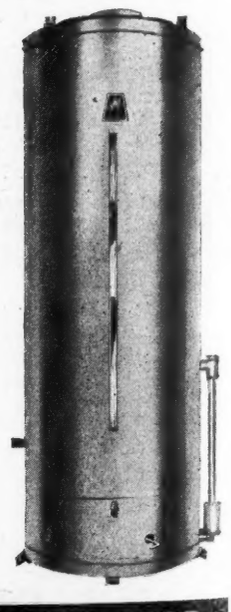
P. O. BOX K,

EDDINGTON - PENNA.

Lochinvar

OIL BURNING WATER HEATERS

The SECRET of Lochinvar's Outstanding Success is the MULTIPLE-STAGE BURNER



MICHIGAN TANK & FURNACE CORP.

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WHY THE NOZZLE SCARCITY?

Fig. F-80

Even though nozzle production is at the highest rate in our history (and still increasing) most of our output is being taken by urgent military requirements, including many "restricted" applications. War orders *must come first* so deliveries on quantity orders with low priorities are rather extended.

Note: Emergency orders for one or two nozzles are being shipped promptly.

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MONARCH MFG. WORKS, INC.
E. WESTMORELAND AND SALMON STS., PHILADELPHIA 34, PA.

YOUR CUSTOMER *must* SAVE FUEL
Show him how with a

10% to 25% Fuel Saving Easily. Quickly Installed. Fully Automatic. No Servicing.

Cole DRAFT Governor

Standard domestic round style — Sizes 5" to 18"

Any season, Cole Draft Governors will earn you a tidy profit in easily-made *extra* sales. *This* season — in the face of fuel rationing — Cole Draft Governors will earn you the lasting satisfaction of customers that follows increased comfort, heating efficiency and *fuel economy.*

The time to sell Cole Draft Governors is RIGHT NOW. You'll find a large waiting market in your community, as more than 75% of the oil-burning installations *need* this control.

A complete line of draft controls for every size and type of heating and power plant — from the smallest domestic to the largest industrial installation. Write for complete information.

Cole-Sullivan Engineering Co.
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There's a PUMP-power Shortage, too

We'd like nothing better than to tell you that you can have Tuthill Pumps and Fuelstats on an immediate delivery basis. But, like manpower, pump-power is needed in the winning of the war and Tuthill products have to be "earmarked" for essential war service.

Today, we are doing our best to keep present equipment operating efficiently on the home front through Tuthill authorized service stations and through the factory.

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are serving
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Model 2A-300

THE GENERAL LEADS SUMMER CAMPAIGNS!

When dealers make Summer Inspections and service calls to increase dollar volume, profits and save unnecessary calls in the busy Fall season, they find The GENERAL is a real helper and money-maker. Easy to sell and install. Servicing is quick and simple—a twist of the wrist. No tools required.

The GENERAL removes all waxes, dirt and other foreign matter which clog nozzles —saves wear and tear on burner parts.

MODEL 2A-300 FOR ALL POWER OIL BURNERS. MODEL 1A-50 FOR SPACE HEATERS, WATER HEATERS AND FUELOIL RANGES.

Excellent design—Fine workmanship. A good record of service to the Field. Dependable.

General Filters, Inc., 14435 Grand River Ave., Detroit 27, Mich.

GENERAL FUEL OIL FILTER *Write for Literature*

Listed: Re-Examination Service, Underwriters' Laboratories

Gas Competition

(*Continued from page* 34)

as it does now about the advantages of straight coal gas; the oil companies that sell the enrichment oil (while they have been exceedingly cooperative in everything they were asked to do to help the war) were not staying up nights to find new ways to commit suicide, and as our Pennsylvania Dutch friends would say, "You can't hate them for that." The larger oilheating equipment manufacturers had converted their plants to war work, and that was the focus of their thinking, and you can't hate them for that—war materials are important.

So apparently we're licked on the gas enrichment problem. The gas companies got a break that they didn't particularly deserve, and we're just another war casualty; we ought to be getting used to it by now.

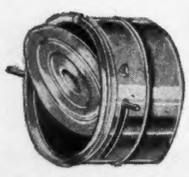
There is another angle to gas competition, however, that should probably concern us more than enrichment oil; that is the postwar planning of the gas industry.

Oilheating has the grandest opportunity in the immediate postwar years that it ever had, if we don't muff it. In talking with a number of oilheating dealers, we seem to be overlooking some fairly serious possibilities. The gas industry is not going to lose much time, once new installations are unfrozen. They're going after home heating like Grant went after Richmond, and they can take a lot of it if we let them. There seems little question that gas is going to be our real competition, rather than stokers. When a man throws away his coal shovel, he wants to stay out of the basement, and he can do that only with oil or gas. The small number of stoker installations during the war, when they had everything pretty much their own way, is important to study.

How are the gas companies going to get their projected new home heating business? Probably in the same way that they got it in the Midwest in the six years before the war . . . just by hard selling, when the oilheating industry had slowed down on its most effective type of selling.

Of course, in the Midwest, it's mostly natural gas; it has always been acceptable for home heating, but it was not until the middle thirties that many of the big city gas companies put on successful selling drives. Today their percentage of all gas customers who use gas for central heating is about four times what you have in the East. In other words, in the Midwest about one gas customer in 12 uses it for central heating, while in the East it's about one in 50. But it wasn't always that way in the Midwest, not until the real sales promotion drives started.

You don't have natural gas competition in New England, although there is some chance that the two "Big Inch" pipelines may be used for natural gas. Sidney Swensrud, vice-president of Standard Oil Co. of Ohio, has just published a paper on the subject. If those lines should go to gas, it may not get up into New England, but in any event we can count on the New England companies having a better gas after the war. With a higher Btu content per foot, they can carry correspondingly more actual heat in the same lines under the street, so they can add a lot of home heating without laying new mains.



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Write for literature and trade price

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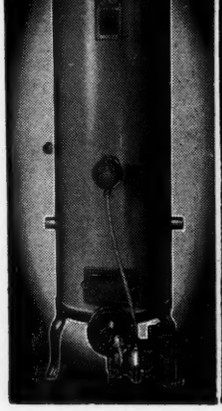

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INTERMITTENT OPERATION
ELECTRIC IGNITION
WITH BOTH VAPORIZING AND PRESSURE TYPE BURNERS
Available in Six Sizes

WRITE OR WIRE TODAY FOR COMPLETE INFORMATION

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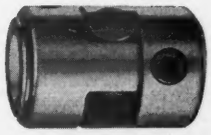
MADISON WISCONSIN

NOW is the Time for Overhaul and Replacements in AIR CONDITIONING, Oil HEAT, etc.

L-R FLEXIBLE COUPLINGS



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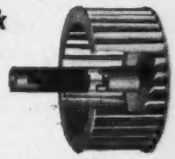
Types IA Uniflex and UX Double-flex simplest, most efficient. Overall lengths Uniflex 1⅝" to 3⅜". Double-flex, 2 and 3-piece, 1¾" to 4⅞" overall length. Absorb shock and vibration, correct misalignment. Pat. and pats. pending.

Wire or write for details and prices.



Mfrs. make blower wheels with L-R jaws integral with hub.

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake St., Chicago 44, Ill.

The Midwest gas companies, in the few years before the war did their selling by taking a leaf from the oilheating book of earlier years. Back in the years 1922 to 1932 oilheating as an industry was really driving; it built a record of popularizing an unknown product that has rarely been matched.

But coming out of the depression, sales emphasis had considerably shifted. Popular acceptance had grown to the point of providing an actual demand for oilburners. So the sales emphasis was less on the benefits of oilheating and more on competitive burner brands.

It is obvious that oilburners had reached the stage of acceptance from the way annual totals kept climbing—on up to 1941, the peak. But that is looking at the country as a whole. Burner sales did not go up in cities like St. Louis, Minneapolis, Cleveland, Detroit and those other spots where the gas companies were driving. Gas outsold us three or four to one. They did not do it with a better product nor a cheaper product. Probably no important city has gas cheaper on a Btu basis than fueloil. Gas was sold in those cities with promotion drives, in which the brand of equipment installed was incidental.

Gas companies have one advantage, when they go after a city—they have no internal competition. There is only one gas company, where we might have 50 competing fueloil companies. True, a number of dealers in the city can sell the gas equipment, but the utility sees to it that everything is pretty harmonious. Also the utilities sell a lot of equipment direct.

Gas drives start with vigorous advertising; then an army of salesmen calls on homeowners to preach the gospel. When they make a sale, they almost invariably include a cap insulation job—it holds down gas bills 20%. Where there is a new home development, with prospective buyers coming around to look at houses, the gas company keeps a man on the ground all day every day, including Sundays, to talk to the home buyers; they work with the real estate salesmen.

The history of gas campaigns has shown that they usually last about three years in a particular city. In that time the company can get its maximum economic load. To go farther would take a larger investment in new mains than the additional revenue would justify. But during those three years they certainly raise the devil. They build acceptance for gas heating to a point where the smaller future business that falls in their laps is enough to keep them satisfied.

Usually, after the three-year gas spree, the oilheating men get better organized, those that are left, and then their sales start up again, but always after that they have a stiffer wall of gas acceptance to keep pushing out of the way.

The danger to our industry in individual cities is that these gas drives will creep up on us while we're busy with other things. Our worst hazard from an industry standpoint is the probability of easy prosperity immediately after the war. If you don't think that a lot of people want to buy oilburners as soon as they can get them, ask P.A.W. about the thousands of applications for exceptions to PDO-13 that they have rejected in the past year. So the industry will be busy taking care of that flush demand, includ-

Vinco Products for Cleaning and Conditioning Heating Systems

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Sold everywhere through wholesalers of plumbing and heating supplies.

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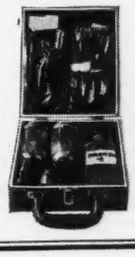

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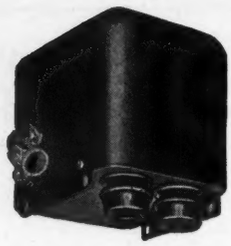
In designing your post-war oil burner, you will make no mistake in including in your specifications the make of transformer that has been standard for years on leading makes — the DONGAN. Write for literature telling about the construction features that insure unfailing ignition.



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VENTALARM

FUEL OIL DELIVERY

THE MODERN METHOD

SCULLY SIGNAL COMPANY

88 FIRST STREET — CAMBRIDGE, MASS.

ing the replacements that will be piled up because we couldn't get enough burners.

Some other things will apparently be pretty easy for us. From present outlook, fueloil supply in the immediate postwar years will exceed the demand, and if the old economic laws still work that's going to be a help. This cannot happen until the total war is concluded, but best informed oil men expect it then.

The gas companies will then find a comfortable, complacent oilheating industry a most fertile field for exploitation.

How can oilheating dealers, under such comfortable conditions, revive a fighting, competitive spirit? This does not mean fighting competitive brands, but fighting competitive industries. With a war on, it has been exceptionally easy to get dealers together in cooperative meetings—they aren't very actively competing—and they're all being beaten about the ears by things they can't control. We all huddle in a storm.

But a lot more people have died from prosperity and overeating than ever died in storms. So when dealers are fat again, and prosperous and self-sufficient, perhaps they will think twice before abandoning these wartime cooperative efforts. Perhaps they will work together to design the artillery to battle the inroads of competitive fuel equipment.

It may be too much to expect, but possibly the old scrapping days can return to our industry, and the oilburner salesman will carry around a newspaper to show the prospect how a gasburner blew up a house, and the gas man will carry one showing how an oilburner blew the house down, and they'll both carry one about stokers—the stokers just blew the fire out and blew flyash on the family wash.

◈

In Ten Years F.H.A. Passes 7½ Billion

ON JUNE 27 THE Federal Housing Administration will have been in operation for ten years. In that period some 4,500,000 property owners have been able to improve their premises through insured improvement loans totaling $1,700,000,000. Also, more than 1,400,000 new home loans have been insured, aggregating over $6,000,000,000. Depression-born, F.H.A. was a major factor in the expansion of oilheating and fueloil sales in the years preceding the start of the war, and probably will be again postwar.

◈

Houston Returns to Army: Phillips New Deputy Adm.

COLONEL BRYAN HOUSTON, who came to OPA November 1 as deputy administrator in charge of all rationing programs, has resigned to return to the Army Service Forces, effective May 15. The Colonel leaves OPA with a record of having done probably more travelling and making more salty, humorous speeches in a six-month period than anyone in high Government circles.

His successor as deputy administrator is Charles Phillips, with several years Government experience, and most recently Director of the Automotive Rationing Division, handling gasoline, tires and automobiles.

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Simply spray E-Z, and the soot in fire chamber and flues vanishes instantly. Increases efficiency of oil. One trial will convince you. "EASY" TO USE . . . ECONOMICAL TOO! Makes satisfied customers.

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Enclosed find check ( ) money order ( ). Send the following prepaid:

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Why wait for Post War?

Protect the Boilers that are in use NOW with

NEWARK CONTROLS

BLOOMFIELD NEW JERSEY

Fueloil Tank Trucks Operating. By States

REQUESTS HAVE BEEN MADE, from time to time, for a state-by-state estimate of the number of retail fueloil tank trucks.

Because an exact separation between heating oil trucks and range oil trucks is impossible to calculate, both are included. However, of the country-wide total of 34,744, it is estimated that 22,400 are delivering No. 2 and heavier oils and the remainder are primarily used for kerosene and No. 1. In addition, of course, there are many thousands of tank trucks used primarily for gasoline, but delivering fueloil incidentally, particularly in Midwest and Western villages where there are only a handful of oilheating customers on the books. Such trucks are not included. Also, no over-the-road transports are included.

No separation was made between dealers specializing in heating oil and those in kerosene, since many would overlap. In general, however, of the national total of 12,118, an estimated 6,500 sell principally heating oils and the balance principally kerosene.

Fueloil Tank Trucks in Use by States

Related to 1942 Consumption of Heating and Range Oils
(Shown in Thousands of Barrels)

State	Fueloil Sales	Retail Tank Trucks	Dealers Operating Trucks	State	Fueloil Sales	Retail Tank Trucks	Dealers Operating Trucks
Mass.	25,653	5,180	1,760	Illinois	22,121	3,730	1,209
Connecticut	9,958	1,910	671	Michigan	7,419	1,250	396
Rhode Island	5,540	1,080	376	Missouri	6,623	1,090	339
N. Hamp.	2,961	640	209	Minnesota	6,445	1,070	335
Maine	2,138	420	145	Wisconsin	5,855	1,010	325
Vermont	1,251	250	86	Iowa	3,162	580	204
New York	42,635	6,060	1,840	Indiana	2,683	470	159
New Jersey	19,559	2,820	866	Nebraska	1,885	320	97
Penn.	11,270	1,450	368	Ohio	2,079	380	137
Maryland	4,245	590	178	S. Dakota	582	102	35
D. of C.	2,604	320	73	Kansas	613	112	42
Delaware	631	90	38	N. Dakota	447	83	30
12 Northern	128,445	20,810	6,610	12 Midwest	59,914	10,197	3,308

State	Fueloil Sales	Retail Tank Trucks	Dealers Operating Trucks	State	Fueloil Sales	Retail Tank Trucks	Dealers Operating Trucks
Virginia	1,791	373	146	California	7,168	696	433
Florida	1,744	269	223	Washington	4,865	468	288
N. Carolina	1,313	323	222	Oregon	2,572	245	152
Louisiana	555	117	52	Nevada	582	111	35
Georgia	706	163	95	Arizona	431	84	28
Texas	992	245	161	Colorado	250	51	22
S. Carolina	447	107	70	Idaho	161	33	12
Kentucky	349	75	34	Utah	136	28	11
Arkansas	258	61	39	Montana	169	38	20
Oklahoma	253	61	40	Wyoming	127	27	13
Alabama	180	41	26	N. Mexico	98	22	12
Tennessee	186	46	31				
W. Virginia	114	27	17	11 Western	16,559	1,803	1,026
Mississippi	106	26	18				
14 Southern	8,994	1,934	1,174	U. S. Total	213,912	34,744	12,118

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Much to our regret we can neither quote prices nor handle correspondence except for a few old customers.

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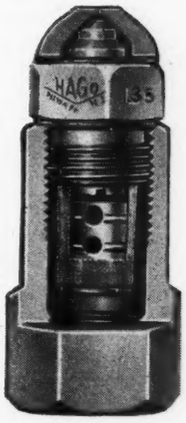

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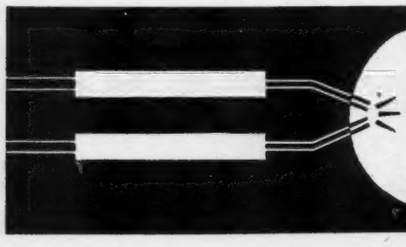

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